

## Doctoral Handbook

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## OVERVIEW OF RACKHAM'S GENERAL REQUIREMENTS

The Ph.D. is granted by the Horace H. Rackham School of Graduate Studies (generally referred to as Rackham). Degree requirements for all doctoral programs can be found in the [Rackham Graduate School Academic Policies](#). Section 5 discusses policies and procedures related to doctoral students and is the reference for the information contained below unless otherwise noted.

*Continuous Enrollment.* Once admitted to a Ph.D. program, students will register every fall and winter term until their degree is awarded, unless they are taking an official leave of absence. Students will register in spring or summer terms only when they take their pre-candidacy examinations, or defend their dissertations. Students must be registered for 8 credits of NRE 995 during the term in which they defend their dissertation.

*Coursework in Residence.* A pre-candidate must complete at least 18 credit hours of graded (including the grade of S – Satisfactory) graduate coursework registered as a Rackham student while in residence on the Ann Arbor campus. Courses elected as visit (audit) do not meet this requirement, nor do any doctoral courses (those designated as 990, etc.).

*Cognate Requirement.* Rackham requires four hours of graduate-level coursework in a field outside the focus of the doctoral work. All cognate coursework must be approved by the graduate program. Cognate requirements may be satisfied in three ways:

1. By completing 4 credit hours of cognate coursework in approved graduate-level courses with a grade of B- or better (certain graduate programs may have additional cognate requirements).
2. By using coursework within the same graduate program but in a subfield different from the student's own. A course in a student's program that is cross-listed as a course in another program may satisfy the cognate requirement. In this case, the graduate program should notify Rackham OARD.
3. By completing graduate coursework at another institution that meets the expectation of the cognate requirement, without transferring the credit to the transcript. This coursework must be completed no more than 5 years before admission to the current Rackham doctoral program. The student must provide Rackham OARD with an official transcript, and the graduate program should notify Rackham OARD that the coursework fulfills the cognate requirement. These courses do not apply toward the minimum 18 credit hours required for the degree and do not appear on the University transcript

*Responsible Conduct of Research and Scholarship Training.* Integrity in research and scholarship is a fundamental value of the University of Michigan. It is the responsibility of all students to conduct research and scholarly activities in an ethical manner at all times. An indispensable part of graduate education is for students to become knowledgeable about the responsible conduct of research and scholarship appropriate to their discipline or field of study.

Effective for new students in the Fall 2014 term, all Ph.D. students are required to complete training in the responsible conduct of research and scholarship before advancing to candidacy. Each graduate program determines the content and methods for providing students with this education and for ensuring its successful completion. Requirements may take the form of a course, workshop, or be part of a larger professional development seminar, but must include at least eight hours of face-to-face contact between students and faculty members, with more than one faculty member involved.

The Graduate Chair must certify that each student who applies to advance to candidacy has completed the required training.

*Advancing to Candidacy.* Upon completion of SNRE's candidacy requirements (discussed at length in this document), the necessary form is filed with SNRE's School Registrar and is then sent on to the Associate Dean. The Associate Dean's review, in turn, leads to recommendation from the School to Rackham. (Rackham then approves candidacy status). Candidacy should be achieved by the end of the 4th term and no later than three calendar years after first enrollment in the program (note that NRE requires students to achieve candidacy within two years, see below). A student who does not achieve candidacy within three years will be placed on academic probation, unless the graduate program petitions Rackham OARD to request additional time because of extenuating circumstances

*Dissertation Committee.* This committee must consist of at least four faculty, including two NRE faculty members plus one qualified cognate member. The Rackham Graduate School Academic Policies includes a number of Rackham requirements related to the committee's membership and the steps required for its designation. The [Quick Reference Chart](#) for Membership on the Dissertation Committee is also useful.

*Defense of Dissertation.* A full-term Candidacy enrollment (8 credits of NRE 995) is required when the dissertation defense is held. Students need to check the Rackham Information to ensure that Rackham's requirements for the timing of the defense and for the dissertation itself are met. As of Fall 2007, candidates who defend their dissertations must submit final revisions to OARD within a year of the defense date. A candidate who does not meet this deadline will be required to defend the revised dissertation again.

*Maximum Time Limit.* Students are expected to complete the degree within five years of achieving candidacy, but no more than seven years from the date of the first enrollment in their Rackham doctoral program. Effective for students entering in the fall of 2007 and later, graduate programs may request an unconditional one-year extension for students deemed to be making satisfactory progress toward the degree, providing a plan and timeline for completion. A program may request an additional one-year extension, but a student who does not complete the degree after two years of extension may be returned to precandidacy status and required to meet candidacy requirements again. Rackham will notify graduate programs of students who have not completed their degree within the stipulated period.

## **PROCEDURES FOR NRE DOCTORAL PROGRAMS**

The School of Natural Resources and Environment (NRE) offers two doctoral degrees: Ph.D. in Natural Resources and Environment and Ph.D. in Landscape Architecture. The policies, procedures, and requirements for these programs are described below in some detail for the guidance of faculty members and the guidance and protection of students.

### **Mission**

The goal of the doctoral programs is to develop the creative abilities of selected exceptional students' "training them for independent research that contributes to original scholarship at the forefront of their chosen fields. These students are expected to become leaders both in training other professionals and in developing the scientific knowledge base for formulating natural resource policies and management practices that contribute to the sustainable use of natural resources.

The research activities in NRE focus on

- Defining and understanding critical natural and environmental resource problems; and

- Developing knowledge and management strategies to address these problems.

To accomplish these objectives, research is also directed toward

- Understanding the structure and function of natural resource and social-behavioral systems; and
- Learning how these systems interact to create and solve resource problems.

The doctoral program is highly individualized, tailored to the academic and career goals of each student. As such, no two students in the program are likely to take the identical set of courses. At the same time, the program is guided by a framework to ensure that each student's academic efforts will lead to demonstrated research creativity and competence. Since students in the program come with diverse academic and professional backgrounds, it is important that this framework be interpreted to take advantage both of past accomplishments and of the resources available at the University.

### **Advising**

Admission to the doctoral program includes the assignment of an advisor and one or more faculty members who agree to serve on the student's Interim Guidance Committee (IGC). New students should interact regularly with their advisor and committee members to decide upon courses to take, research topics, sources of funding, and the like. While faculty members expect such interaction, it is up to the student to continue this request for advice. Students should probably meet monthly with an advisor during the first year. Before the end of winter term in the first year, the IGC should meet to review and approve a course of study and have created a formal mentoring plan. The plan of study should include courses to be taken, courses already completed, a description of the research activities to be undertaken for the next year, and conversations about Pre-Candidacy Exam Committee. The Course of Study and formal mentoring plan should be submitted to the Office of Academic Programs (OAP), needs to be approved by SNRE's Associate Dean by the end of the first academic year (second semester).

During a doctoral student's tenure, guidance is provided initially by an Interim Guidance Committee (IGC), often consisting of three faculty members. By the end of the first year, the student typically will have identified additional faculty, including a cognate member from outside SNRE, to guide the student in the identification and development of a research problem. This group of usually four or five faculty (including one from outside SNRE) will administer the Pre-Candidacy Examination and other requirements for advancement to candidacy, hence is referred to as the Pre-Candidacy Committee. At the point when the student has presented a fully developed Dissertation Research Proposal and it is approved, Rackham is notified by SNRE of the formation of the Dissertation Committee, which will guide and evaluate the final thesis. Some changes in faculty membership of these several committees is common as the student and advisor refine the directions of the student's research.

### **Course of Study**

The [Course of Study](#) is a plan that delineates how the student proposes to accomplish her/his goals for this degree in a timely fashion. The Course of Study is an important document, but it is not intended to be an unalterable contract.

In addition to listing specific courses, the Course of Study must include a statement that explains the intent and goal of the doctoral program, including the areas of theory, methodology and analytics, and application that the student expects to combine in the preliminary examination and dissertation research.

The Course of Study should outline a logical series of courses to provide the background for original academic work in the area of emphasis for each student. While the specific courses for such background obviously vary, the structure should follow from the general emphasis areas listed above. In completing the Course of Study, the student should outline courses taken or to be taken in each of three emphasis areas: theory, methods and analytics, and applications. Some courses might apply to more than one emphasis area, but most would count in one area. The course listing should include all courses taken as a graduate student, with courses taken as part of the Ph.D. Program noted clearly. Also, the student must take one course from each category listed above from the University of Michigan as part of his/her doctoral program. In addition to these listings, the student can include undergraduate courses taken in each of these areas. Finally, at least 9 credit hours must be NRE courses.

### Required Courses

In helping the student design her or his Course of Study, the students Chair/Interim Guidance Committee should consider the appropriate balance between effort devoted to coursework and timely progress towards the development of a dissertation topic. Because the doctoral degree is a research degree, emphasis is placed on developing the skills to plan, implement, evaluate, and communicate about research. Gaining these skills requires several approaches; some approaches are common to all doctoral students, whereas other approaches are useful in particular kinds of research. To prepare students for carrying out research, the following are required:

- **Research Paradigms.** (NRE 741) will be taken during the first three terms of study. This course offers a conceptual and critical treatment of issues relevant to doing research in natural resource/environmental areas. Topics addressed include the nature of science and criteria for "quality research"; characteristics of the scientific community; research value systems and ethics; and considerations of interdisciplinary research. The course is intended to broaden the students' perspective of the diversity of research frameworks through class discussions stimulated by assigned readings, as well as workshop problem-solving sessions and occasional guest lectures.
- **Two analytic courses.** Doctoral students are required to take (or have taken previously) at least two courses (400-level or above) that focus on tools of analysis, research design, research evaluation, and/or data collection methods. The particular areas of analytics appropriate to each student will vary.
- **Cognate Course.** Rackham requires four hours of graduate-level coursework in a field outside the focus of the doctoral work. You must receive a grade of B- or better in order to fulfill the cognate requirement. In most cases, this requirement has been met by the student's prior studies at the master's level.

### Course of Study Document

The Course of Study document should be formatted to include the following information:

1. A one-page, single-sided statement that explains the intent and goal of the doctoral program including the areas of theory, methodology and analytics, and application that the student expects to combine in the preliminary examination and dissertation research.
2. A list of relevant undergraduate courses, including credit hours and grades, organized by content (e.g., biological sciences, physical sciences, social sciences, analytic sciences, etc.).
3. A list of relevant graduate-level courses (including credit hours and grades) taken or to be taken. Courses taken as part of the Ph.D. program should be clearly noted, and one course from each emphasis area must be taken at UM as part of the Ph.D. program. These courses should be listed in emphasis areas of: a) Theory, b) Methods and analytics, and c) Applications to show how they contribute to the student's background.

4. An abstract of an undergraduate research project or master's thesis (if a thesis was written).
5. Curriculum vitae.
6. Timeline

### **Pre-Candidacy Examination Committee**

A faculty advisor is assigned to a student before the Pre-Candidacy Examination Committee is formally constituted. It is understood that the Chair of the Pre-Candidacy Examination Committee will subsequently serve as the faculty advisor once the Pre-Candidacy Examination Committee has been formed. Composition of the Pre-Candidacy Examination Committee must meet all of Rackham's requirements for dissertation committees found in the Rackham Graduate School Academic Policies. In addition, the Pre-Candidacy Examination Committee must have the following minimum composition:

1. At least four members, two of whom must be from NRE.
2. A chair or two co-chairs. The chair or one co-chair must be an NRE faculty member who is a regular member of the Rackham Graduate Faculty.
3. A minimum of two NRE members of the Rackham Graduate Faculty (may include adjuncts who must be petitioned to Rackham for approval to serve).
4. A minimum of three regular members of the Rackham Graduate Faculty.
5. A cognate member who
  - "Is familiar with the standards for doctoral research;
  - Holds at least a .50 appointment in a Rackham doctoral program in a related field (not the home program);
  - \* Faculty who hold only "dry" or "courtesy" appointments (as opposed to funded appointments) in the candidate's field may be considered for cognate membership on the dissertation committee.
6. LPhD students: The chair (or co-chair) and at least one other committee member (pre-candidacy and dissertation) of a student in the LA PhD program must be members of the LA faculty.

During the first term of enrollment, the student should consult with her/his advisor and begin identifying potential members of the Pre-Candidacy Examination Committee. These members may be the same as the Interim Guidance Committee or different. It is appropriate that the student ask faculty members whether they are willing to serve on the PEC. The student should meet with the Committee as soon as possible to review her/his program.

The student is responsible for:

1. Having members sign the [Pre-Candidacy Exam Committee form](#);
2. Ensuring that these materials reach Jennifer Taylor, the School Registrar, (1504 Dana).

This should be done no later than the end of the third term of enrollment. The Office of Academic Programs and the Associate Dean review the Pre-Candidate Examination Committee to see that guidelines are met.

If for any reason the student and/or Pre-Candidacy Exam Committee Chair believe that a revision of the Committee is in the best interests of the student, a recommendation nominating the new members should be submitted to the Associate Dean. The recommendation for revision should include a brief explanation of the reasons for the change.

### ***Pre-Candidacy Examination***

The pre-candidacy examination's purpose is to enable the candidate to demonstrate fundamental knowledge of the area of study at an advanced level before embarking on research for the dissertation. It is administered by the Pre-Candidacy Examination Committee and should not be scheduled until at least one full term after the Committee has been formally appointed, but before the end of the second academic year (four academic semesters). A student must be enrolled for at least one hour of credit in the term in which the pre-candidacy examination is administered (see Rackham Graduate School Academic Policies).

All pre-candidacy examinations have both a written and oral component, but the precise format is determined by the Pre-Candidacy Examination Committee and the student to achieve the objectives in the most effective way. The examination should be challenging, stimulating, and leave no doubt in the minds of the Pre-Candidacy Examination Committee members or of the student about the student's readiness for advancement to candidacy. The examination should be a constructive experience in bringing together knowledge that is often gained in a fragmentary fashion.

### ***Written Examination***

The written component of the examination may be open- or closed-book, or a combination of the two. The format of the examination should be decided upon by the Pre-Candidacy Examination Committee and the student well in advance of the date selected, with the rules and procedures clearly understood by all parties. The following are examples of examinations drawn from various formats.

- Open-book exam: Each member of the Committee prepares up to two questions that are collated by the Committee Chair and given to the student at a specified time. The student normally is allocated one day to answer questions from each member. Answers are prepared within guidelines of length (e.g., six pages) and format that were previously specified by the Pre-Candidacy Examination Committee. A set of answers to all questions should be given to each committee member at least one week prior to the oral examination.
- Closed-book exam: Questions are prepared by the committee members and provided to the student as in the case of the open-book examination. Questions are answered within a specified time without the use of references or other resource materials. Answers are assembled, duplicated, and provided to each committee member at least a week prior to the oral examination.

### **Oral Examination**

The student is responsible for arranging a location for the oral examination. Contact, by email, [snre.rooms@umich.edu](mailto:snre.rooms@umich.edu) at least three weeks in advance to arrange for a room. The format of the oral examination is decided upon by the Pre-Candidacy Examination Committee and the student. A format that has proven workable follows.

- Review of the student's preparation. At the start of the oral examination it is usually desirable for the Committee to excuse the student and review her/his record, the written portion of the examination, and other matters before the oral examination begins. The student is then invited to return to the room and the examination proceeds.
- Committee questions. Oral-examination questions are intended to confirm for each committee member that the student is ready to advance to candidacy. The written component of the examination may provide a springboard for oral questions, but questions should not be constrained by the boundaries of the written examination. It is most important that all committee members are satisfied with their basis for judgment of the student.
- Grading the examination. There are four possible outcomes of the pre-candidacy examination:

1. Pass. An unconditional pass.
2. Conditional pass. Generally scored as a passing performance, but with deficiencies in one or more areas. Such a score delineates that additional work will be conducted designed to lead to a satisfactory level of knowledge in the judgment of the committee member or members concerned with the areas of specified weakness. Once the student meets the conditions, the examination is considered a pass, and further examination is not required. The Committee should submit paperwork indicating that the student has met their additional expectations.
3. Conditional fail. The candidate fails the examination, but shows sufficient promise for eventual successful completion of the doctorate to justify a second examination. The examination normally will be conducted under the guidelines for an original examination. No student will be allowed more than one repeat of the oral examination.
4. Fail. The candidate may not repeat the pre-candidacy examination and is requested to discontinue the doctoral program.
  - Reporting the examination. At the conclusion of the oral examination, the student is asked to leave the room so that the Committee can discuss the outcome. After a consensus is reached, the student is invited back into the meeting where the outcome of the examination is openly and frankly discussed. If the outcome is conditional, the student will be told of the conditions as judged by the Committee, and such conditions will be confirmed in writing by the Chair, with a copy to the Associate Dean to be added to the student's academic file.
  - Prior to adjournment, committee members will sign the [Report on the Pre-Candidacy Examination Form](#) and the Chair/student will submit the form to Jennifer Taylor, the School Registrar, in the Office of Academic Programs.

### **Advancement to Candidacy**

Advancement to candidacy occurs after a student successfully passes the Pre-Candidacy Examination. In addition, the student must submit, and the Pre-Candidacy Examination Committee must approve, a 3-5 page pre-proposal identifying the expected dissertation research topic (described below). After meeting these conditions, the School recommends to Rackham that the student be advanced to candidacy.

### **Dissertation Proposal**

Development of the student's dissertation research topic should begin at the point when the student enters the SNRE PhD program, through discussions with the advisor, members of the IGC, and other

faculty. These discussions should be sufficiently advanced by the time of the Pre-Candidacy examination to allow committee members to structure questions that align with the expected subsequent development of the student's research. To ensure that the student and the Pre-Candidacy Examination Committee are clear about the intended direction of that research, a pre-proposal must be submitted at least 8 weeks prior to the schedule pre-candidacy examination. Proposal structure is flexible based on the advice of the members of the Pre-Candidacy Examination Committee, but is expected to be 3-5 single-spaced pages in length, separate from references or charts, and to include a succinct statement of the problem area, specific questions or hypotheses, proposed methodology, and expected significance. A fully developed dissertation proposal is not required for advancement to candidacy and would normally be expected by the end of the fifth academic semester.

The student must submit—and have approved—a Dissertation Proposal and Dissertation Committee by the end of the 5th academic semester. The preparation of the proposal is conducted under the direction of the faculty member who is likely to chair the Dissertation Committee. Approval of a Dissertation

Proposal and Dissertation Committee does not preclude a student from modifying the proposal or developing a different proposal, provided that the student's Dissertation Committee agrees to the changes.

After the dissertation proposal has been approved by the faculty who are likely to serve on the Dissertation Committee, it is attached to a [Dissertation Committee and Proposal Form](#), bearing the signatures of the faculty who approved the proposal, and submitted to Jennifer Taylor, the School Registrar (1520d Dana). The Registrar will submit the proposal and form to the Associate Dean for Academic Programs. S/he reviews it for clarity of objectives, hypotheses, and methodology. If there are questions, s/he will discuss the issues with the student and/or the Committee chair.

### ***Proposal Content***

There is no single, prescribed format for all dissertation proposals. Students are encouraged to use formats such as proposals written to the National Science Foundation or other external sponsors. All proposals should include information as requested in the following sections in the order given.

1. Overview (1 page, double-spaced)
  - (a) Overall objective. State in broad terms the general goals of the research.
  - (b) Specific aims/hypotheses. State concisely the precise purpose of the research and what the hypotheses are to be tested.
2. Background (2-3 pages)

Briefly describe the most significant previous work in the field under consideration. Critically evaluate existing knowledge. Specifically identify gaps that the proposed research is intended to fill by relating the specific aims of the proposed research to previous work in the field.
3. Research plan and methodology (4-5 pages).
  - (a) Approach. State how the problem is to be resolved using general terms and relating this general approach to the specific aims and hypotheses to be tested. Use plain language (free of jargon) understandable to faculty who represent a broad range of academic disciplines.
  - (b) Design. Provide specific details of the research design, (e.g., hypotheses, sample sizes, analytical approaches, etc.) and describe the formal analysis to be used to determine the certainty of inductive inferences.
  - (c) Methods and techniques. Provide the technical details of methods to be used in the research.
  - (d) Possible results. Indicate the kinds of results expected and how they will be used to support or refute the hypotheses being tested and/or how they will relate to the specific objectives.
  - (e) Limitations and pitfalls. Indicate the technical pitfalls to the proposed approaches, methods, and techniques. If possible, indicate alternative approaches that might be used to circumvent these possible problems. Indicate the limitations to the interpretation or inferences that can be made from the findings.
4. Work schedule. Provide an estimate of the period during which the research and dissertation writing will occur, and a timeline for important accomplishments.
5. Literature cited.

### ***Use of Vertebrate Animals and Human Subjects in Doctoral Research***

University policy and federal law require the review of research projects. This is done to (a) ensure humane treatment and safe use of vertebrate animals, and (b) protect human participants. Before research on a project is actually started, the Dissertation Committee Chair should make clear whether the project involves either vertebrate animals or human participants. If the project does involve such research, visit the [U-M Office of Research and Sponsored Projects](#) for more information regarding forms and University review committees.

NRE does not require that dissertation proposals involving vertebrate animals and human participants be reviewed by a University review committee prior to candidacy, but doctoral students should be aware that such research must be reviewed by a University review committee before the research commences. Federal regulations and University policy require that all investigations using human beings as subjects of research be reviewed and approved by an appropriately constituted faculty committee before such investigations begin. No dissertation based on human beings as subjects can be accepted without this prior review and approval (Rackham Graduate School Academic Policies, Section 5.5.4).

### ***International Travel***

If your academic travel (conference, research, internship, project/thesis work) takes you out of the U.S., you are required to register via the U-M Travel Registry and purchase the U-M Travel Abroad Health Insurance. The health insurance is required even if you currently have insurance which provides for international travel. Information and registration link is available here: <http://global.umich.edu/>. Please note: If you are receiving funding from SNRE, OAP verifies your registration and health insurance purchase, and then will distribute the funds to your student account.

### **Dissertation Committee**

Once the dissertation committee is in place, guidance for the remainder of the student's doctoral program passes to the Dissertation Committee. The membership of the Dissertation Committee is often the same as the Pre-Candidacy Examination Committee, but this is not mandatory. The appointment process is initiated by the student and the Pre-Candidacy Exam Committee Chair in similar manner as that for the Pre-Candidacy Examination Committee (see [Dissertation Committee and Proposal form](#)). All of the guidelines applicable to the composition of the Pre-Candidacy Examination Committee also apply to the Dissertation Committee. This procedure is needed even if the composition of the Dissertation Committee is the same as the Pre-Candidacy Examination Committee.

The Dissertation Committee should meet regularly with the student during candidacy, and at least once a year in winter term to review progress and future plans. The committee should certify at this meeting that satisfactory progress has been made that year. The [Ph.D. Student Annual Progress Report](#) (including date and signatures of all committee members) should be forwarded to the Jennifer Taylor, in the Office of Academic Programs.

### ***Roles of the Chair (or Co-Chairs) and Cognate Member***

The chair (or each co-chair) is responsible for guiding and encouraging the design and execution of an original, high-quality, doctoral-level research project. The end result of this effort is expected to be a dissertation that makes a substantive contribution to the discipline.

The cognate member's role is to broaden the scholarly representation of the dissertation committee beyond the home program. The cognate member also serves the Graduate School and its faculty by providing a non-specialist's perspective on the quality of the dissertation.

For additional information regarding eligibility and Dissertation Committees, see the chart found in the Rackham School Academic Policies, The [Quick Reference Chart for Membership on the Dissertation Committee](#) is also useful.

### ***Changes in Committee Membership***

Membership of the Dissertation Committee may need to change for a variety of reasons. When such changes are occasioned by faculty members' unavailability (e.g., leaving the University for one reason or

another) candidates may modify the membership of the Committee simply by submitting a "[Revised Dissertation Committee](#)" form to the Office of Academic Programs.

If, however, at any time in the dissertation process the candidate believes that arrangements with, or disagreements among, committee members are so adverse as to constitute an insurmountable obstacle to successful completion of the dissertation, the candidate may petition for a revised Dissertation Committee. The petition should be submitted directly to the NRE Associate Dean and must contain a full statement of facts as the candidate sees them.

The Associate Dean will review the petition. If necessary, s/he will contact members of the Dissertation Committee (existing or proposed). If the Associate Dean concurs with the petition, they will nominate a revised Dissertation Committee and submits this nomination to Rackham. Approval of this nomination by Rackham constitutes appointment of a revised Dissertation Committee. Notification of such action is handled in accord with standard Rackham procedures.

### ***Additional Documentation Required***

Any changes in the composition of the doctoral committee must be submitted for approval by the Graduate School using the Dissertation Committee Form. In the following cases, additional documentation is required, as specified:

- Retired and Emeriti Professors Nominated to Serve as Sole Chair or Cognate Member: The completed Dissertation Committee Form must be accompanied by a memorandum, signed by the faculty member's chair and by the dean of his/her school or college, requesting the appointment and affirming the professor's experience in teaching, advising and dissertation committee service. Once approved, the appointment will be in effect for 3 years and may be renewed with the approval of the faculty member's chair and dean, and the Dean of the Graduate School.
- University Faculty and Staff, or Individuals Outside the University: When individuals in these categories are nominated for dissertation committee service, the completed Dissertation Committee Form must be accompanied by
  - (a) A memorandum from the student's chair describing the individual's qualifications for dissertation committee service; and
  - (b) A copy of the nominee's curriculum vitae.

### **Satisfactory Progress**

Satisfactory progress through the Ph.D. program will be certified every year, by the student, advisor, and committee. This will include:

1. Certification at the end of year 1 by the advisor and an Interim Guidance Committee (IGC) of two or more faculty members, based on courses taken, coursework planned, and research plan for year 2 in the form of completed [Course of Study form](#). Completion of the Responsible Conduct of Research requirement and submission of a Formal Mentoring Plan.
2. Certification at the end of year 2 by the Pre-Candidacy Exam and advancement to candidacy.
3. Certification at the end of year 3 by submitting the approved Dissertation Proposal in the 5th academic semester and formation of the Dissertation Committee.
4. Certification at the end of each year of candidacy, by the Dissertation Committee, based on a meeting and written documentation of research progress and plans in the form of the [Ph.D. Student Annual Progress Report](#).

Certification of satisfactory progress is required annually for Ph.D. students to maintain normal status. Students who are not certified for satisfactory progress will be ineligible to apply for Graduate Student

Instructor (GSI) positions in NRE and in the Program in the Environment, and also will be ineligible to apply for NRE or Rackham funding that requires a signature from the Associate Dean.

Satisfactory progress requires timely completion of a number of milestones. In some cases, illness, parenting needs, parental care, or other extenuating circumstances may result in slower progress than would normally be expected. Students who have significant life events that affect their ability to complete their milestones should notify their committee and may apply for Rackham's Leave of Absence (LOA). Unless students are on an approved Leave of Absence, students must remain enrolled until the PhD program is complete. In some cases, further permission to extend time to degree would be petitioned to Rackham.

A student who is discontinued from our Ph.D. program while in good academic standing, or who has been discontinued for failing to show sufficient progress, may seek Reinstatement to the same program. Application and supporting documentation must be submitted at least one academic term (F or W) prior to desired returning term. Contact the SNRE Director of Academic Programs or the SNRE Registrar for further information.

### **Dissertation Evaluation and Defense**

Members of Dissertation Committees vary in the degree to which they interact with students during the writing stage. Students should meet with all committee members to clarify mutual expectations. At least 8 weeks before the defense is scheduled, the student should hold a pre-defense meeting of the full committee to ensure that the expected final dissertation content and quality are consistent with faculty expectations. The dissertation defense should be scheduled once the Chair of the Dissertation Committee and committee members are satisfied that the final draft of the dissertation is acceptable.

All requirements, including those that follow, must be met by the final Office of Academic Records and Dissertations (OARD) deadline to avoid having to register for another term. Deadlines are available on the OARD website.

A candidate must [register online](#) to schedule a pre-defense meeting (in-person or remote) with a representative of Rackham OARD. The pre-defense meeting must take place at least 10 working days before the oral defense. Candidates are encouraged to bring a copy of the dissertation for a format review. OARD staff and the candidate review steps to complete the degree.

- Oral defenses must be public. Candidates provide OARD with the date, time, and location of the defense, and OARD will publicize the information.
- As soon as possible but no later than 10 working days before the oral defense, a candidate should distribute copies of the dissertation and abstract to all committee members. A committee member who does not receive a copy of the dissertation and abstract at least 10 working days before the defense may ask for a postponement.
- At least 3 working days before the oral defense, Rackham OARD must receive and review dissertation evaluations from the committee members so that Rackham may authorize the final defense.

Prior to the defense, the candidate prints the Final Oral Defense to take to the defense.

At the conclusion of the defense, the committee members should meet in executive session and sign the Rackham dissertation approval form. The Committee may delegate to one or more of its members the responsibility for checking the final draft to see that required changes are made. The Chair is the most common delegate. The Chair should also ensure that the identity of the person(s) who will certify that all corrections have been made is clearly noted on the form.

After the Oral Defense, submit all required content revisions and corrections to your committee chair for approval. Arrange for a [post-defense meeting](#) that must take place before the doctoral deadline. If the final deadline is exceeded, you must register and pay for an 8-hour enrolling the full term the final degree requirements are completed.

As of Fall 2007, candidates who defend their dissertations must submit final revisions to OARD within a year of the defense date. A candidate who does not meet this deadline will be required to defend the revised dissertation again. (Section 5.5.1)

### Final Corrections and Submission

Every dissertation will be submitted electronically to the University Library as the official copy of record. After the post-defense format check, the candidate will upload a PDF of the final corrected and complete dissertation. Once the degree is conferred, the Graduate School will transfer the dissertation to the Library for electronic access in the Deep Blue digital archive. Additional information is available in the [Rackham Dissertation Handbook](#).

### Additional Resources

- Sweetland Writing Center: <http://www.lsa.umich.edu/sweetland/>
- CSCAR Center for Statistical Consultation and Research: <http://cscar.research.umich.edu>
- University Library - ScholarSpace: <http://www.lib.umich.edu/scholarspace>
- CRLT Center for Research on Learning and Teaching: <http://www.crlt.umich.edu/>
- Rackham Graduate School
  - Academic Policies: <http://www.rackham.umich.edu/current-students/policies>
  - Dissertation Handbook: <http://www.rackham.umich.edu/current-students/dissertation>
  - Ph.D. Defense Deadlines: <http://www.rackham.umich.edu/current-students/policies/doctoral/phd-students/doctoral-degree-deadlines>
  - Candidacy Deadlines: <http://www.rackham.umich.edu/current-students/policies/doctoral/phd-students/candidacy-deadlines>