



Guidelines for the Degree of Doctor of Philosophy in Natural Resources Revised: October 2020

Introduction

Welcome to the Ph.D. Program at the Rubenstein School of Environment and Natural Resources. The Rubenstein School is a vibrant learning community. The doctoral degree program presents you with the opportunity to achieve a high level of scholarly competence and to develop the capacity to contribute knowledge in your field. These guidelines are specific to the Rubenstein School of Environment and Natural Resources. They will help you form a committee, gain teaching expertise and professional skills, gain cross-cultural experiences, propose a dissertation, prepare for comprehensive examinations, and defend your dissertation. These guidelines provide common levels of understanding and expectations for both you and the faculty of the Ph.D. Program.

During the first year of your program, you will select a faculty committee that will mentor you through your program. However, it is your responsibility to ensure that all degree requirements are met. These guidelines supplement the General Requirements for the Degree of Doctor of Philosophy outlined in the University of Vermont Graduate Catalogue, but do not supersede them. The Graduate Catalogue defines student rights and responsibilities, and describes models for selecting and working with an advisor. You may, with written support from your advisor, request exceptions from the Rubenstein Graduate Standards Committee to any of the provisions that follow.

You must fulfill the general requirements set forth by the Graduate College in the University Catalogue for Degree of Doctor of Philosophy in Natural Resources:

<http://catalogue.uvm.edu/graduate/degreerequirements/requirementsforthedoctorofphilosophydegree/>

The Graduate College maintains a website where you will find services, forms, and policies outlined.

<https://www.uvm.edu/graduate>

<https://www.uvm.edu/graduate/resources>

Degree Requirements

The faculty of the Rubenstein School has established the requirements that follow for the Ph.D. in Natural Resources.

I. Individual Development Plan (IDP): Students shall complete an Individual Development Plan, required by the end of the first semester for first year students. The IDP must be submitted to the Rubenstein Graduate Student Services Specialist as a Graduate Requirement. It is recommended that students complete and/or update their IDP every year of the program.

Resources for the IDP can be found on the RSENR graduate resources page:

https://www.uvm.edu/rsenr/graduate_student_resources

https://www.uvm.edu/sites/default/files/Rubenstein-School-of-Environment-and-Natural-Resources/RSENR_IDP_2018_2.pdf

II. Program of Study: You must have a Program of Study Form completed and approved by your committee and the Graduate Program Coordinator of the Rubenstein School.

III. Coursework: A minimum of 75 credits and a grade point average of 3.0 or higher are required. To successfully complete the Ph.D. in Natural Resources you must maintain a grade point average of at least 3.0. If two or more grades below 3.0 or "B" are received, you may be dismissed from the Graduate College.

- If you are entering the Ph.D. program with a M.S. degree you must take a minimum of 15 credits grade-bearing credits of graduate-level coursework at the University of Vermont (<http://catalogue.uvm.edu/graduate/courses/>). Up to 24 credits of graduate level coursework may be transferred if approved by the Graduate College. When approved, only credits are transferred, not grades. Thus, transferred credits do not count towards the 15-30 grade-bearing credits. The remaining credits to reach the total of 75 credits are comprised of additional course work, dissertation credits, and/or project credits.
- If you are entering the Ph.D. program without a M.S. degree you are required to enroll in 30 credits of grade-bearing credits of graduate-level coursework at the University of Vermont (<http://catalogue.uvm.edu/graduate/courses/>).
- The remaining 45-60 credits are composed of additional coursework or dissertation research credits (NR 491).100/200 level coursework: You may, before enrolling, seek permission from your advisor and the Graduate College to count **up to six credits** of 100/200 level coursework. Approval must be obtained before enrolling in the class.

Coursework for all Rubenstein School Ph.D. students must include:

- NR 395: Applied Ecology, Environment and Society (2 credits). This course provides a cohort experience for incoming students and combines expertise from two or more disciplines. The course allows students to see how ideas are connected and promotes collaboration and critical thinking. This course must be taken during your first fall semester. Any deviation from this timeline must be pre-approved by the Graduate Standards Committee.

- NR 306: Envisioning a Sustainable Future (2 credits). This course provides an opportunity to expand your understanding and appreciation of diversity issues, and engender within yourself the strength and perspective to listen to, and respect, voices and ideas that differ from your own. This course must be taken during your first fall semester. Any deviation from this timeline must be pre-approved by the Graduate Standards Committee.

IV. Forming a Committee: You will, in consultation with your advisor, propose a committee(s) that will oversee your studies and comprehensive examination, and your dissertation research. *You may elect to have a separate committee for each function.* The advisor presides over the committee(s), except during the oral comprehensive examination and the Dissertation Defense Examination. For these exams, a graduate faculty member from outside the Rubenstein School will serve as chair. The committee should be formed, and convened at least once, during the first year of your program.

Your committee should be structured as follows:

- Your advisor must be from inside the Rubenstein School **and** a member of the Graduate Faculty;
- The Chair must be from outside the Rubenstein School **and** a member of the Graduate Faculty;
- Two additional members must be from the Graduate Faculty (a total of four from the UVM Graduate Faculty in all);
- Of the total members, at least two members must be from the Graduate Faculty of the Rubenstein School.

The University of Vermont Graduate Catalogue outlines committee requirements for Ph.D. students under the General Requirements for the Degree of Doctor of Philosophy. Final approval of your committee is the responsibility of the Rubenstein School Graduate Program Coordinator.

V. Teaching or Professional Skills Requirement: You must complete at least one of the following tracks.

(i) Teaching Option You will have an opportunity to improve communication skills, gain important career experience, and learn through teaching. If you elect this option, you will either:

(a) successfully complete a course in university teaching **and**

(b) one of the following:

- 1) co-teach with a faculty member the equivalent of at least a one-credit course in his or her discipline, or
- 2) develop and teach, with mentoring, an advanced special topics undergraduate course, or
- 3) with mentoring, teach a full course and participate in developing and grading assignments.

(These options do not include the Rubenstein School core courses or teaching assistantships.) Note that, for example, a one-credit course equivalent would include one-third of all course requirements — lectures, assignments, labs — for a three-credit course. You will also attend lectures given by faculty mentors throughout the course as part of the learning experience. Students must complete their teaching prior to their final semester at the University.

All teaching and mentoring assignments must be approved in advance by the Graduate Standards Committee as part of your Teaching Plan. You will work with your faculty mentors to develop this plan, and will submit your Teaching Plan to the Rubenstein Graduate Student Services Specialist for consideration by the Graduate Standards Committee by April 1 for the fall semester, or by November 1 for the spring semester. Any salary provided for teaching will be at the discretion of the Dean.

Components of the Teaching Plan—submitted webform will include:

- 1) A written proposal indicating the semester, course name and number, and your faculty mentor;
- 2) A draft of the syllabus you propose to use. For option (a) above (one credit equivalent), the syllabus must specifically identify the one-credit equivalent of teaching for which you will be responsible;
- 3) The specific university teaching course you will take or have taken.
- 4) The names of two faculty members who will observe your teaching and provide written evaluations.

Any change in course, mentor, or any other aspect of the Teaching Plan must be pre-approved by the Graduate Standards Committee.

Final webform reports must include:

- 1) A description of any changes you made to your original proposal
- 2) Two faculty evaluations of your teaching via webform

(ii) Professional Skills Option You will have an opportunity to develop and demonstrate the skills necessary to work as an environmental professional, such as in an environmentally focused business or nonprofit organization, government agency, or research institution. You must present more than just the scholarly work expected of an accomplished Ph.D. student or academic scientist.

Professional skills proposals must be submitted to the Graduate Standards Committee that demonstrates your proficiency with client solicitation and marketing, preparation of proposals, presentations to clients, budget management, project reports, and drafting papers.

Final reports submitted by you to the Graduate Standards Committee via a webform and may include specific documentation that demonstrates work/proficiency with: client solicitation/marketing, proposal preparation, presentations to clients, budget management, project reporting, and paper writing. This list is not meant to be exclusive – other documentation of competency may be substituted for consideration by the Graduate Standards Committee.

VI. Dissertation Proposal: You must write a dissertation proposal to establish the scope and content of the research project you intend to pursue. This proposal is a scholarly contribution to knowledge in your area of specialization. Your proposal will, at a minimum, describe the appropriate scientific and professional literature in your field, present the research question(s) you seek to answer, identify your research methods, and define and explain the contribution to the field that you intend to achieve.

1. You will defend the research you propose in an open seminar; you will provide an announcement to the Rubenstein School Graduate Student Services Specialist, which will include an abstract and the names of your committee members. This must be done at least two weeks in advance of the seminar. Members of your Studies/Dissertation Committee will attend.
2. The Studies/Dissertation Committee will review and approve your dissertation proposal;
3. The proposal, the seminar, and subsequent approval by the committee should occur during your second year of study (semesters 3 or 4) and should precede the substantive portion of your research;
4. Your advisor and studies committee must be notified if a significant deviation in the proposed research occurs.
5. Your advisor will submit documentation approving your proposal to the Rubenstein School Graduate Student Services Specialist for placement in your file.

VII. Comprehensive Examinations: The purpose of these examinations is to provide you with an opportunity to demonstrate your depth and breadth of knowledge. The preparation and administration of the examination is the responsibility of the Studies/Dissertation Committee. The examination comprises a four-part written exam and an oral exam. You should schedule it during your second year of study (semesters 3 or 4). The Graduate College stipulates that the examination must occur at least six months before your dissertation is submitted.

A. Written Exam

1. Conducting the Exam The chair of the committee, in consultation with you and the committee members, shall specify the format of the written portion of the comprehensive examination.

In no instance will the exam period be less than two days or more than seven. The committee members will specify whether you will have access to outside materials such as books, lecture notes, articles, reading notes, etc., to develop your responses. In order to encourage succinct and focused writing, committee members are encouraged to specify a maximum page length for answers to each question.

2. Suggested Guidelines for Written Comprehensive Exams (may be adjusted by the committee ahead of the exams with the student informed of any changes from this format).

- a) Primary advisor will collect questions from each committee member before the exam period begins.
- b) Primary advisor will provide the student question(s) from one committee member per day (day defined as 8-12 hours)
- c) Graduate student will send the answer(s) to the full committee at the end of each day
- d) Written exam will occur within an exam period of one week

3. Content of the Exam The written exam should include questions that probe four areas:

- a) The philosophy of science;
- b) Theory in your area of specialization;
- c) Methods in your area of specialization;
- d) Integration of social and natural science dimensions of the environment and natural resources.

The presiding faculty member of the committee will be responsible for ensuring that these four areas are covered in the exam.

4. Grading of the Exam Each subject area will be graded *pass* or *fail* by the examiner(s) who wrote the question(s). Questions not graded within 10 days following the exam will be assumed to have been passed. If they do not meet expectations, the committee member will inform the committee and the student. The student will address the concern(s) in writing with a deadline provided by the committee. All areas must be successfully completed in order to pass the written portion of the exams.

You may repeat a part of the written exam that you have failed, but only once. The second exam will address only the areas you previously failed. It must take place within six months of the date of the initial exam. If the repeat exam is failed again you may file an appeal with the Graduate Standards Committee, who will make a recommendation to the dean. The dean will issue a determination regarding your status in the program.

B. Oral Exam

The oral exam will focus on the subject areas from the written exam and related topics, particularly any weak areas. The underlying intent shall be to examine your ability to think and express yourself extemporaneously. Therefore, questions need not be limited to the subject areas originally designated, but rather may seek to discern if you have the knowledge that is essential to understand information in your field of study.

1. Scheduling and Announcement The oral exam will follow within one month of satisfactory completion of written exam. The oral exam shall be scheduled during working hours on weekdays when the University is in session and will not be scheduled on holidays or religious holy days.

2. Conducting the Exam The oral exam shall be presided over by the Chair of the Studies/Dissertation Committee. Its recommended duration is two hours and it should not exceed three. The presiding faculty member is responsible for ensuring proper conduct of the examination.

Once questioning has been completed, you will be excused. Each of the four members of the committee (including the Chair) then votes to either pass or fail you. If there is one *fail* vote, you pass; if there are two or more, you fail the exam. You will be told of the result as soon as it is reached.

If you fail the oral exam, the committee must inform you of the reasons for failure and suggest source materials for improvement. The second exam shall be conducted in the same manner as the first. In consultation with the committee, you will determine the appropriate time for the oral examination. The second oral exam must be taken within three months of the first.

Your advisor is responsible for documenting and communicating exam results to the Rubenstein School Graduate Student Services Specialist. This is done through the Comprehensive Exam form, which is then forwarded to the Graduate College for recording on your transcript. At this point, you may be advanced to candidacy.

VIII. Dissertation Seminar and Defense Examination: The purpose of the Dissertation Seminar is to share with the academic community the findings of your research. The Defense Examination provides you and your committee with the opportunity to have a wide-ranging and in-depth discussion about the nature of your research and its implications.

You must submit your dissertation to the committee members at least two weeks prior to your seminar and defense examination; likewise, the seminar and defense will take place at least two weeks after the Graduate College format/record check. See:

https://www.uvm.edu/sites/default/files/Electronic_Thesis_and_Dissertation_Guidelines.pdf

https://www.uvm.edu/sites/default/files/Timetable_for_defense.pdf

A. Dissertation Seminar You will present your research in a dissertation seminar open to the public. You will provide an announcement to the Rubenstein School Graduate Student Services Specialist, which will include an abstract and the names of your committee members. This must also be done at least two weeks in advance of the seminar. Members of your Studies/Dissertation Committee will attend.

B. Dissertation Defense Examination The dissertation defense tests the quality and originality of your research, and your independence of thought, ability to synthesize and interpret data. The defense concerns principles and historic perspectives, as well as discussion of your dissertation results and conclusions. Examiners often pursue lines of thought and argument based on the data and concepts that have contributed to your research and the critical evaluation you have made of it. You should be aware that any area that you failed during the comprehensive examination will be a focal point during the Dissertation Defense Examination.

While this is generally a closed exam, any Rubenstein School Graduate Faculty member may attend, providing that both you and your advisor are given one day's notice.

1. Conduct of the Examination

The Chair will preside over the examination. The recommended length of the examination is one hour, with a maximum of three hours.

Once questioning has been completed, you will be excused and an initial straw vote will be taken, followed by discussion. The final voting may be oral. However, at the request of any committee member, this vote may be by secret ballot. Each member of the committee (including the Chair) votes whether you have passed or failed. If there is more than one vote for failure you do not pass the exam. You will be informed verbally of the result as soon as it is reached. Even if you pass, you may be required to make changes in your dissertation before it is signed in its final form.

If you fail the examination, you may retake the exam once. This exam must occur within six months of the first one. If you fail the second exam, you may file an appeal following procedures found in the Students' Rights and Responsibilities section of the Graduate Catalogue.

IX. Suggested Schedule for Completion of the Ph.D. Degree Program: Many factors influence the timing of each individual's program. This table illustrates progress of a full-time Ph.D. student

in the Rubenstein. The schedule reflects the general expectations of the Graduate Standards Committee and the Rubenstein School Graduate faculty.

A. Schedule of Benchmarks and Expectations

Semester Evaluation	1st and 2nd	3rd and 4th	5th and 6th	7th and 8th
You are exceeding expectations	<p>You meet expectations, and you</p> <ul style="list-style-type: none"> * present research at a scholarly conference; * submit a teaching or professional skills proposal to the Graduate Standards Committee 	<p>You meet expectations, and you</p> <ul style="list-style-type: none"> * present research at a scholarly conference; * submit a scholarly work to a peer-reviewed journal; * complete the co-teaching or professional skills requirement 	<p>You meet expectations, and you</p> <ul style="list-style-type: none"> * submit a scholarly work to a peer-reviewed journal 	<p>You meet expectations, and you have</p> <ul style="list-style-type: none"> * acceptance or publication of a scholarly work in a peer-reviewed journal
You are meeting expectations	<p>You have achieved consistent satisfactory, timely, and professional completion of:</p> <ul style="list-style-type: none"> * IDP * NR 306; * NR 395: AE,E&S; * TA and/or RA duties; * your program of study plan; *conduct an initial meeting with dissertation committee. 	<p>You have achieved consistent satisfactory, timely, and professional completion of:</p> <ul style="list-style-type: none"> * TA and/or RA duties; * the course work described in your program of study plan; * the formal defense of your research proposal; * comprehensive written and oral exams; * your teaching or professional skills proposal 	<p>You have achieved consistent satisfactory, timely, and professional completion of:</p> <ul style="list-style-type: none"> * TA and/or RA duties; * the teaching or professional skills requirement; * course work; 	<p>You have achieved consistent satisfactory, timely, and professional completion of:</p> <ul style="list-style-type: none"> * TA and/or RA duties; * your Dissertation Seminar and Defense; * a scholarly work submitted for peer-review

B. Evidence of Completion of Requirements During the fall semester, evidence that requirements have been met shall be provided as identified in their descriptions. Evidence to be provided to the Graduate Standards Committee should be submitted via the Rubenstein School Graduate Student Services Specialist.

C. Time Limits The Graduate Catalogue outlines University requirements for completion of Ph.D. degree programs. The University allows all Ph.D. students nine years. As a full-time Ph.D. student in Rubenstein, you are encouraged to complete all degree requirements within four years of your enrollment.

D. Review of Progress Each year, the Graduate Standards Committee reviews the progress of all Ph.D. students in the Rubenstein School. The intent of the review is to provide you with feedback to help you complete your degree in a timely fashion. The Graduate Standards Committee reviews progress based on the Benchmarks and Expectations table above, as well as performance in coursework, where you are expected to maintain a GPA > 3.0. If you fall significantly behind

schedule or are not maintaining a GPA > 3.0, your advisor will be contacted by the Graduate Standards Committee. You should know that:

1. If you have a cumulative GPA < 3.0, you will be placed on academic probation.
2. If you are lagging in your completion of requirements according to the established schedule, your advisor will receive a notice from the Graduate Standards Committee, with a copy to you. The message will strongly suggest that you act as quickly as possible to correct this situation, and that you meet with your advisor to discuss how the requirements may be completed.
3. If a second year elapses and the previous requirements remain unfulfilled, a second letter will be sent to you, with a copy to your advisor and to the dean, to inform all parties that you are being placed on probation.
4. If you remain in arrears after the third year, the Graduate Standards Committee will send a third notice, which will go to the dean of the School, with a copy to you and your advisor, and this letter will recommend deactivation. The dean will notify you and your advisor of the decision within four weeks, and will notify the Graduate College regarding any recommendations for deactivation.

At any stage, the Graduate Standards Committee will entertain requests for waivers, exceptions, and variances in the process described above should extenuating circumstances arise. You and your advisor should make all such requests jointly.
