



**THE RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES  
MASTERS GRADUATE PROGRAM & CONCENTRATION GUIDELINES  
- A Student Guide to Policies and Procedures -**

Revised October 2008

In conjunction with the Graduate College, The Rubenstein School of Environment and Natural Resources (RSENR) offers one Master's Degree (MS) in Natural Resources with several optional concentrations including: Aquatic Ecology and Watershed Science; Environment, Society, and Public Affairs; Environmental Thought and Culture; Forestry and Wildlife Biology.

**REQUIREMENTS AND RESPONSIBILITIES**

**Admission:**

General requirements for admission to the M.S. in Natural Resources are described on the Graduate College Website <http://www.uvm.edu/~gradcoll/?Page=admissions.html>.

**Official Policy Statement:**

The University of Vermont Graduate Catalogue is the official document stating graduate student policies, degree requirements, rights, and responsibilities for the M.S. in Natural Resources.

[http://www.uvm.edu/academics/catalogue2006-07/?Page=allpolicies.php&SM=policymenu.html&category=graduate\\_policies](http://www.uvm.edu/academics/catalogue2006-07/?Page=allpolicies.php&SM=policymenu.html&category=graduate_policies)

**Degree Requirements for M.S. in Natural Resources:**

Students must fulfill the general requirements for the Masters Degree as set forth by the Graduate College in the University Catalogue.

[http://www.uvm.edu/academics/catalogue2006-07/?Page=read.php&p=/Colleges\\_and\\_Schools/Graduate\\_College/Requirements/Requirements\\_for\\_the\\_Masters\\_Degree&SM=collegemenu.html](http://www.uvm.edu/academics/catalogue2006-07/?Page=read.php&p=/Colleges_and_Schools/Graduate_College/Requirements/Requirements_for_the_Masters_Degree&SM=collegemenu.html). The Graduate College maintains a website outlining services, forms, and policies at <http://www.uvm.edu/~gradcoll/?Page=services.html>.

Additional program requirements are established by the Faculty of The Rubenstein School for the M.S. in Natural Resources. The M.S. in Natural Resources is a 30-credit program. All students must enroll in 15 credits of grade-bearing coursework at the University of Vermont, including NR 378, Integrating Analyses of Natural Resource Issues, and (for students entering in or after Fall 2008) NR 306, Race and Culture in Natural Resources. With the prior approval of their committee and the Graduate College, students may apply one 100/200 level, three-credit course that is not approved for graduate credit towards

their graduate program. A student must obtain advisor and Graduate College approval before enrolling in the course. The remaining 15 credits consist of project credits, thesis credits, and/or additional coursework, depending on the concentration. Up to 9 credits may be transferred if approved by the Graduate College; if approved, only the credit is transferred and not the grade. Thus, transferred credits do not count toward the 15 grade-bearing-credit requirement. In addition, students must complete a Program of Study, present their work at the RSENR Graduate Student Symposium, successfully complete a comprehensive exam with a written component, have an accepted proposal, and defend their thesis or project. To successfully complete the M.S. in Natural Resources students must have a 3.00 grade point average. A student may be dismissed from the Graduate College if two or more grades below a 3.0 or "B" are received.

Additional requirements are established by faculty in several areas of concentration as indicated in the appropriate sections below.

Aquatic Ecology and Watershed Science: In addition to the general M.S. in Natural Resources requirements (30 total credit hours to include NR 306 and NR 378), this concentration has the following requirements:

- Enrollment in a one-credit special topics seminar organized by faculty and students in the concentration
- Enrollment in at least 12 additional hours of course work in the aquatic and watershed sciences, or supportive fields (approved by the student's studies committee).
- The student's comprehensive examination includes both a written and an oral component.
- Students in this concentration pursue a thesis; thus a minimum of 6 thesis research credits are required.

Environment, Society, and Public Affairs: In addition to the general M.S. in Natural Resources requirements (30 total credit hours to include NR 306 and NR 378), this concentration has the following requirements:

- Three courses in content related subject matter from an approved list, by approval of the student's studies committee. At least two of these courses should be offerings from RSENR (includes NR, ENVS, and RM).
- It is highly encouraged but not required that students take the Vermont Field Studies course in the summer before they commence classes.
- A course in methods/tools, chosen in consultation and with approval from the student's advisor and studies committee.
- A course in natural or physical science relating to the student's program of study (may be waived for students who have a science-related undergrad degree)
- Thesis or Project credits (6 credits for thesis; 3-6 credits for project)

Environmental Thought and Culture: In addition to the general M.S. in Natural Resources requirements (30 total credit hours to include NR 306 and NR 378), this concentration has the following requirements:

- Enrollment in a conceptually integrated curriculum of course work consisting of at least 15 credits, approved by the student's Studies Committee;
- Enrollment in NR 385 Vermont Field Studies (1 credit) and NR 385 Environmental Thought and Culture (2 credits) are both strongly recommended, but are substitutable by other appropriate courses;
- 6 to 9 thesis or project research credits.

Forestry: In addition to the general M.S. in Natural Resources requirements (30 total credit hours to include NR 306 and NR 378), this concentration has the following requirements:

- The student's comprehensive examination includes both a written and an oral component.
- Students in this concentration pursue a project or thesis; thus a requirement of 3-6 project or 6-9 thesis research credits are required.

Wildlife Biology: In addition to the general M.S. in Natural Resources requirements (NR 306 and NR 378), this concentration has the following requirements:

- The student's comprehensive examination includes both a written and an oral component.
- Students in this concentration pursue a project or thesis; thus a requirement of 3-6 project or 6-9 thesis research credits are required.

Ecological Planning: In addition to the general M.S. in Natural Resources requirements (NR 306 and NR 378), this special program has the following requirements:

- 15 credits of specific required coursework, including Reading the Landscape (NR 385) in the summer before the first fall semester.
- Students in this special program pursue a project and not a thesis; thus 3-6 project credits are required.

Dual Degree with Vermont Law School: The Master of Studies in Environmental law (M.S.E.L.)/M.S. in Natural Resources Dual Degree Program is offered jointly with Vermont Law School's Environmental Law Center. Students must meet each school's degree requirements, including required courses and thesis preparation. However, 9 credits may be transferred between programs and used to fulfill both degrees; thus students in the Dual Degree Program may earn both degrees with a total of 42 credits. For the M.S., students may select any of the concentrations described above.

Students may also choose to pursue interdisciplinary topics not covered in these concentrations. Students pursuing a thesis are required to enroll in NR 378, NR 306, and 6-15 thesis research credits. Students pursuing a project are required to enroll in NR 378, NR 306, and 3-15 project research credits. Additional requirements may be determined by the student's Studies Committee (see below).

### **Student Responsibilities:**

It is the responsibility of the student to understand requirements and to keep abreast of progress. The faculty advisor is expected to be knowledgeable, available for consultation, and actively involved in the student's experience, but it is the student who takes the lead and bears ultimate responsibility for completion of his or her program of study and program requirements.

### **FACULTY ADVISOR**

Each graduate student has a faculty advisor whose academic interests are matched with those of the student and who is normally from within the student's academic program. The advisor guides in matters of course selection, research direction, and overall requirements for completion of the degree, and must be a member of the UVM Graduate Faculty. The advisor chairs the student's Studies Committee and usually serves as the thesis or project director. For students funded through research projects, the advisor is usually the faculty member who is the Principal Investigator on the project.

### **STUDIES COMMITTEE**

Each graduate student should, with the advice and counsel of the faculty advisor, form a Studies Committee during the first year, preferably in the first semester. The Studies Committee is a group of at least three faculty members, including a Graduate Faculty advisor from RSENR, one UVM Graduate Faculty member from outside RSENR, and one additional University of Vermont faculty member. The Studies Committee is chaired by the student's advisor, and is responsible for reviewing course requirements and related program matters, including the comprehensive exam and proposal defense. If necessary, committee membership may change and evolve with changes in the student's research goals. At the time of the student's defense, the committee is called the Defense Examination Committee (described in the UVM Graduate College Catalogue), and the external committee member assumes the role of the chair. The Defense Examination Committee is responsible for overseeing the thesis/project defense and related program matters. Guidance on selecting appropriate committee members can be found at <http://www.uvm.edu/%7Egradcoll/?Page=forms/thesiscommittee.html>. Membership of the committee must be recorded in the student's file.

It is useful practice for the student to keep committee members informed of progress. The committee may meet as often as the student's needs dictate.

### **PROGRAM OF STUDY**

Graduate students should, with the advice and approval of the faculty advisor, complete a Program of Study form before the end of the first year. The Program of Study is to be submitted to the Associate Dean for Graduate Education of The Rubenstein School of Environment and Natural Resources for administrative review and recording in the student's file. This Program of Study is a non-binding but extremely useful projection of the student's entire course of study. Its completion requires thoughtful consideration of courses taken, and to be taken, transfer credits, and research interests, so that the student can review all requirements remaining and determine how and when each will be fulfilled.

### **SEMINARS**

Seminars serve graduate students in two ways. First, there are opportunities to hear researchers explain how they have addressed scientific questions. Nowhere else do students get a better chance to exercise their critical abilities. Second, students giving their own seminars have a chance to digest and put into perspective a piece of work, which they have done or read about. It is an achievement to stand up and present scientific findings logically and cogently. Seminar presentations are excellent practice for prospective teachers, and no better method exists for preparing for comprehensive exams or the thesis defense. Masters degree graduate students in the School are required to present their thesis/project research in a seminar at the annual RSENR Graduate Student Symposium, usually at the beginning of student's 2<sup>nd</sup> year. Additionally, students are required to present the results of their thesis/project as part of their defense.

### **COMPREHENSIVE EXAMINATION**

The University requires that a comprehensive examination be taken in the field of specialization. Preparation for comprehensive examinations requires students to make an effort to unify and organize their knowledge in the field of their degree program. Students actually begin work toward their comprehensives when they begin graduate work, consciously collecting and integrating knowledge for some time before the examination. To aid in this process, students should solicit advice from their advisor and other Studies Committee members. Students may be advised to prepare by reading treatises or reviews in areas not directly covered by coursework or their research.

All RSENR students are required to take a written exam. At the discretion of the Studies Committee, or as

a concentration requirement, an oral examination may also be required. All comprehensive examinations are taken on the UVM campus in Burlington. Only one re-examination is permitted for any comprehensive exam. Upon completion of the exam, the faculty advisor must complete the appropriate form, indicating the results of the exam, and when it was completed, and submit it to the Graduate College via the RSENR Graduate Program Assistant.

Master's students generally take their comprehensive exams in the third or fourth semester. Graduate College policy requires the student to register ahead of time for GRAD 397, the course title under which performance will be recorded on the transcript. There is no extra fee and no credit hours are awarded for GRAD 397.

The examination will assume a thorough grounding in the student's field of specialization. The final decision on content, length, composition, and format of the comprehensive exam rests with the Studies Committee.

## **THESIS OR PROJECT REQUIREMENTS**

**Thesis vs. Project:** The distinction between a thesis and a project is one of emphasis. A thesis usually involves hypothesis testing or original research that includes the collection and analysis of primary data. A project is usually an applied problem-solving activity addressing current issues in natural resources. Both the project and the thesis must include a literature review that situates the research question or project activity in the current body of knowledge on the topic.

**Guidelines for Writing a Master's Thesis or Project:** Students beginning to write a thesis report shall obtain a copy of Thesis Guidelines from the Graduate College Dean's Office (<http://www.uvm.edu/~gradcoll/?Page=services.html>). Strict compliance with these guidelines is required for the thesis. The written component of a project is much more flexible and its form is determined by the student's Studies Committee.

**Proposal:** A formal proposal is required for a thesis/project and must be approved by the Studies Committee. The proposal should be approved before significant data collection or project work begins; this normally occurs by the end of one year of enrollment. Students should discuss this requirement with their faculty advisor. Notification of approval of the proposal must be recorded in the student's file. Because the project format is not as specifically identified as that for a thesis, students should include a description of their project's written products in the proposal.

**Thesis Format:** Students are allowed to use either the Standard Thesis, or the Journal Article Thesis format. The student's faculty advisor and Studies Committee will help determine which format is appropriate.

The **Standard Thesis** is one in which the author describes the scholarly work in the main body of the document, including a complete review of the literature and an extensive discussion of methodology, results, discussion, and conclusions.

In the **Journal Article Thesis** the author divides the document into two parts. The main part is one or more articles prepared according to the style requirements of a scholarly journal, so that the article is suitable for publication. The article(s) should avoid extreme brevity and be understandable to the members of the student's Studies Committee, even if this necessitates some elaboration of the standard article format. The other part of the thesis provides the context for the article. It includes a comprehensive literature review and bibliography.

The **Standard Thesis and the Journal Article Thesis** differ in organization and placing of material, but not in overall content, scholarship, or clarity of presentation. The student's thesis advisor supervises preparation of the thesis. Regardless of style and format, all theses must be prepared in accordance with the University of Vermont's policy on academic integrity:

<http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf>), including proper citation and attribution of all material that is not the original product of the writer. Details about mechanical format (e.g., paper and print specifications, number of copies) are published in the Graduate College Guidelines.

**Submission:** The thesis must be submitted to the Graduate College for a format check four weeks before the scheduled oral defense. At this time, the thesis must be complete, essentially error-free, and in correct format, although the paper and print quality used may be less than that required for the final version. The deadlines for submission of a project and thesis for a specific graduation date are indicated on the Graduate College Events Calendar:

<http://www.uvm.edu/~gradcoll/?Page=Calendar&agenda=events,gc&period=5months>. The student also must provide copies of the thesis or project to members of the Defense Examination Committee at least two weeks before the scheduled examination.

**Oral Defense:** The oral defense of the project may be scheduled only after successful completion of the Comprehensive Examination. The Defense Examination Committee is usually identical in composition to the Studies Committee. There must be at least three faculty members and at least two of these must be regular members of the Graduate Faculty. One defense committee member must be from outside RSENr, must be a member of the Graduate Faculty, and acts as Chair of the Examining Committee. Details given in the Catalogue for oral defense of theses also apply for oral defense of projects. The Chairperson of the Defense Examination Committee has the responsibility for ensuring proper conduct of the examination and appropriate documentation of results. If the candidate's Defense Examination performance is not satisfactory, one re-examination is permitted.

**Performance Evaluation:** The acceptability of the thesis/project is determined by the Defense Examination Committee. Status of performance on the defense examination is officially recorded as a course, GRAD 399 (Thesis Defense) which carries zero credit hours and for which there is no fee. Students must register for GRAD 399 the semester in which they defend their thesis. This may be accomplished at registration, or the course may be added at any time during the semester up to two weeks before the scheduled defense. The registration must be approved and signed by an authorized person from the Graduate College. Upon completion of the defense, a grade of S (Satisfactory) or U (Unsatisfactory) is assigned for GRAD 399. A copy of the grade report must be recorded in the student's file.

**Disposition:** Following the successful defense of the thesis or project, and immediately after necessary corrections and approval by the Examining Committee, the student delivers three copies of the revised project to the Graduate Program Staff Assistant for RSENr, or three copies of the revised thesis to the Graduate College Office. This is usually within two weeks following the defense. If revisions are required by the Examining Committee, they must be completed in a timely manner, approved by the Committee, or by one faculty member designated by the Committee, and delivered to the Graduate College Office within two weeks of the date of defense. This deadline may be extended to a maximum of six weeks under extenuating circumstances.

## **SUGGESTED SCHEDULE FOR COMPLETION OF DEGREE PROGRAM**

Many factors influence the timing of an individual student's program. The following schedule for a full-time Master's student in the RSENr reflects the expectations of the Graduate Studies Standards Committee and the RSENr faculty.

**Master's Degree Schedule (full-time students):**

**YEAR 1:**

Coursework and Research  
Assemble Studies Committee  
Program of Study Submitted

Proposal Outline Submitted to Studies Committee  
Proposal Approved by Studies Committee

**YEAR 2:**

Comprehensive Exam Completed

Thesis/Project Completed  
Defense Held

In some cases, the comprehensive exam is completed before the student's proposal is accepted. Full-time graduate students in the RSENR are encouraged to complete all degree requirements within 24 months after initial enrollment. It is recognized, however, that to obtain publishable results some students may need to conduct two full years of data collection, and may therefore require some additional time to write the thesis. **Time Limits** for completion of the degree program set by the Graduate College are detailed in the UVM catalogue. Essentially, a full-time student is allowed three years, and a part-time student has five years to complete the requirements for the master's degree.

**Continuous Registration Fee:** According to Graduate College regulations, each graduate student who has completed all course requirements, but not all degree requirements (e.g., comprehensive examination, thesis/project or defense of thesis/project) must pay a continuous registration fee for each semester of the academic year (fall and/or spring) until degree requirements are completed. During the period of continuous registration, the student is entitled to all privileges afforded a student who is enrolled full-time for credit.

## M.S. CHECKLIST

This checklist provides a summary of tasks that must be completed for a Master of Science degree in Natural Resources. All forms can be found at <http://www.uvm.edu/~gradcoll/?Page=services.html> or [http://www.uvm.edu/envnr/welcome/?Page=gradpages/milestone\\_forms/milestones.html](http://www.uvm.edu/envnr/welcome/?Page=gradpages/milestone_forms/milestones.html). A thesis/project information checklist is also available at <http://www.uvm.edu/%7Egradcoll/forms/thesisdissertainforchecklist.pdf>

- Program of Study.** This form should be completed by the end of first year of the student's work. The student identifies members of the Studies Committee and then meets with this committee to identify courses that fulfill requirements of the Graduate College, RSENR, and concentration (if applicable), as well as the student's personal goals. The Associate Dean for Graduate Education approves the selection of committee members and coursework by signing the form which is then submitted to the Graduate Program Staff Assistant for recording and filing.
- Thesis/Project Proposal Approved.** The thesis/project proposal must be approved by the student's Studies Committee (often the same as the Defense Committee). This should be done by the end of the student's first year. There is a form to be signed by the Studies Committee and filed with the Graduate Program Staff Assistant.
- Integration Course, NR 378, Integrating Analyses NR Issues.** Evidence of fulfillment will be on the transcript; no other evidence is necessary.
- Diversity Course, NR 306, Race and Culture in Natural Resources.** Evidence of fulfillment will be on the transcript; no other evidence is necessary.
- Other required coursework as determined by concentration and/or committee.
- Graduate Research Symposium.** In the first semester of the second year of their program, students will present their research at the RSENR Annual Graduate Student Research Symposium. Students will have a total of 15 minutes to present their work and take questions from the community.
- Comprehensive Exam.** Comprehensive exams are typically taken in the second year of the student's program. The format of the exam is decided upon by the committee. Students must register for GRAD 397 – Master's Comprehensive Exam (a no fee, no credit course) during the semester they plan to take the exam and before they take the exam. After successfully completing the exam, the advisor signs the comprehensive exam form and submits this form to the Graduate Program Staff Assistant.
  - Written A written exam is required of all M.S. students.
  - Oral. (if required; the oral exam is not open to the public for M.S. students).
- Intent to Graduate Form.** This form should be filed with the Graduate Program Staff Assistant by the date set by the Graduate College (January for May graduation; July for October graduation; December for February graduation). There is a fee associated with this form which should also be submitted to the Graduate Program Staff Assistant.
- Thesis or Project Defense.** As part of the defense, each student will present a seminar on his/her thesis/project research. Students must register for GRAD 399 – Thesis Defense (a no fee, no credit course) during the semester they plan to defend and before they defend. A Defense Committee Membership form must be submitted to the Graduate College three weeks prior to the defense. At least

two weeks in advance of the defense, a properly formatted abstract must be submitted via email to the RSENR Graduate Program Staff Assistant for distribution, and a printed copy posted on the Aiken Center third floor bulletin board. A template for the defense announcement is available at [http://www.uvm.edu/envnr/welcome/?Page=gradpages/milestone\\_forms/milestones.html](http://www.uvm.edu/envnr/welcome/?Page=gradpages/milestone_forms/milestones.html)

**Thesis or Project Revisions.** Once the thesis or project receives final approval, the student should see that his/her advisor signs the Completion of Masters Degree or Completion of Masters Project form and submits it to the Graduate Program Staff Assistant.

## **GRADUATE STUDENT FUNDING**

Graduate Teaching Fellowships and Graduate Research Assistantships are available to RSENR students. Although the awards often vary in amount and duration, teaching fellowships usually consist of a stipend for nine months, and a tuition scholarship; assistantships carry a stipend but no tuition scholarship and are often for a full calendar year. Fellows and Assistants are expected to provide between 10 and 20 hours per week of service in support of teaching or research activities, depending on their appointment. Summer Research Assistantships usually require 20 hours per week of service. Specific expectations are stipulated in the award letter. Teaching Fellowships and Research Assistantships for the M.S. normally are awarded for a maximum of two years.

Tuition scholarships may be available for research credits if a student is funded on a research grant or contract. Details and applications forms are available on the Graduate College Web site (see below). In addition, a health insurance fee subsidy is available for full-time students. Details and application forms are on the Graduate College Web site: <http://www.uvm.edu/~gradcoll/bluebook2000.html>

## **ALLOCATION OF OFFICES AND STUDY SPACE**

Limited office space in the Aiken Center is available for MS graduate students. Teaching fellows and funded research assistants in their second year are usually provided desk space in offices or laboratories most appropriate for their teaching or research responsibilities. Other graduate students are assigned space and/or lockers in the Graduate Student Lounge, as available.

## **AUTHORSHIP AND DISPOSITION OF DATA**

It is standard practice for graduate students and faculty to share authorship on publications resulting from thesis or project work. Graduate students are encouraged to discuss authorship with their advisors before manuscripts are prepared for publication.

A copy of all data collected as part of a thesis or project must be clearly annotated and provided to the student's major advisor at agreed-upon intervals. Unless specifically agreed to, these data may be used in subsequent research and studies conducted by RSENR. Appropriate credit will be given to individuals who collected these data.

## **SATISFACTORY PROGRESS**

Each year, the Graduate Standards Committee (GSC) will review the progress of every graduate student in the RSENR. The intent of the review is to provide feedback to the student to help her/him complete the degree in a timely fashion. The GSC will review progress according to the Suggested Schedule for Completion of Degree and review performance in coursework (maintenance of a GPA >3.0). Students significantly behind schedule, or not maintaining a GPA >3.0 will be contacted by the GSC as follows:

1. Students with a cumulative GPA <3.0 will be placed on academic probation.
2. Students who are making substantially slower progress than recommended in the schedule (above) will receive a letter from the GSC chair (cc: advisor) that urges them to schedule and complete thesis requirements in a timely manner, and requesting information concerning any mitigating circumstances that might affect timely completion of the thesis.
3. If the student fails to show substantial progress on their thesis within three years of inception of the degree program, and in the absence of extenuating circumstances, the GSC chair will send a letter to the student and their advisor warning that deactivation may be necessary if progress is not made.
4. In situations in which there is a consistent lack of progress on thesis requirements over a three-year period, no evidence of extenuating circumstances, and after consultation with the advisor by the GSC chair, the GSC chair will send a letter to the Associate Dean for Graduate Education in RESNR (cc: student and advisor) recommending deactivation. The Associate Dean shall notify the student and advisor of his/her decision within four weeks, and notify the Graduate College regarding any recommendations for deactivation.

### **INDIVIDUAL VARIABILITY**

Despite similar requirements and expectations for all graduate students, no two graduate school experiences are the same. Research projects vary widely in their rigor and complexity; financial aid packages differ considerably; and individual advisors have different expectations for their students. Because of this variability, please remember that it is the responsibility of the graduate student to understand requirements and timetables for the degree.

The advisor/graduate student relationship should be a special one that leads to important contacts in the future. Your graduate advisor may become one of your most important long-term professional allies and colleagues.