NATURAL RESOURCES M.S.

All students must meet the Requirements for the Master’s Degree (http://catalogue.uvm.edu/graduate/degerequirements/requirementsforthemastersdegree/)

OVERVIEW

The Master of Science in Natural Resources prepares students to pursue studies in advanced disciplinary topics. They will learn scientific and practical methods and develop technical skills for understanding ecological, physical, social, political, and economic aspects of environmental and natural resource issues.

Students choosing to pursue research in this program will take 15 to 24 credits of advanced course work and write and defend a thesis or project. This experience will further their knowledge and proficiency in natural resource fields including 5 areas of concentration:

- Aquatic Ecology and Watershed Science
- Environment, Society and Public Affairs
- Environmental Thought and Culture
- Forestry
- Wildlife Biology

Other areas of study can be pursued through the general degree in Natural Resources including interdisciplinary research not included in the above concentrations. Students and their graduate studies committee work closely together to design these individualized curricula.

Students may also pursue a MELP/MSNR dual degree with the Vermont Law School.

Students choosing to emphasize advanced course work (27 credits) will pursue academic and work experiences leading to development of professional skills emphasizing conservation leadership, ecological planning, and sustainable forestry. A 3-credit project/internship experience will complement the academic course work.

SPECIFIC REQUIREMENTS

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Undergraduate degree in an appropriate field in the sciences, social sciences, or humanities/fine arts, and three letters of recommendation attesting to the candidate’s academic potential for graduate work and motivation for pursuing this degree. Most successful applicants to this highly competitive program have strong academic credentials and experience in an environmental or natural resource-related job, internship, or other related activity.

Minimum Degree Requirements

The master of science requires from 15 to 27 credits of course work in related fields (including NR 395: Applied Ecology, Environment and Society, and NR 306: Envisioning a Sustainable Future), a public research seminar presented at the annual graduate student symposium, a research proposal, a comprehensive examination, and 3 to 6 credits of project research, or 6 to 15 credits of thesis research.

Comprehensive Examination

A written comprehensive examination is required for all master’s students. Generally taken during a students third or fourth semester, the examination will cover broad knowledge of the student’s discipline. The details and format of the examination and its form (written or oral or both depending on the requirements of each concentration) are decided upon by the Studies Committee and will be discussed with the student well in advance of the exam.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Successful completion of any required courses, and at least 15 graded graduate credits earned in compilation of the graduate GPA. A GPA of 3.00 or greater is also required.

AQUATIC ECOLOGY AND WATERSHED SCIENCE CONCENTRATION

The Aquatic Ecology and Watershed Science concentration provides students with advanced understanding of aquatic ecosystems and their watersheds, and the skills and methodologies required to analyze and solve technical problems concerning the effects of human activities on these systems. Current areas of research emphasis include watershed processes and management; stream and lake ecology; fish ecology and fisheries management; aquatic ecotoxicology; pollutant studies; biogeochemical dynamics, and the modeling of aquatic systems, processes and populations.

Minimum Degree Requirements

In addition to the general M.S. in Natural Resources requirements, this concentration requires enrollment in a 1-credit special topics seminar organized by faculty and students in the concentration, and at least 12 additional credits of course work in the aquatic and watershed sciences, or supportive fields (approved by the student’s graduate studies committee). Students in this concentration pursue a thesis and must complete a minimum of 6 thesis research credits.

ENVIRONMENT, SOCIETY AND PUBLIC AFFAIRS CONCENTRATION

Through the M.S. concentration in Environment, Society and Public Affairs, graduate students build theoretical understanding, analytical skills, and applied knowledge in the social dimensions of environmental and natural resource issues. Specific areas in which students may build understanding, skills, and knowledge include:

- environmental policy and planning
- community studies, human behavior, and environmental sociology
- ecological economics
- park and wilderness management
• public participation, conflict resolution, and decision making
• geospatial analysis

**Minimum Degree Requirements**
In addition to the general M.S. in Natural Resources requirements, this concentration requires 21 to 24 credits of advanced courses (including 1 methods course, 3 courses reflecting this concentration’s emphasis, and 1 ecology course), and 3 to 6 credits of project research or 6 credits of thesis research. Students pursue a project or thesis.

**ENVIRONMENTAL THOUGHT AND CULTURE CONCENTRATION**
In this concentration graduate students build interdisciplinary analytical skills and theoretical understanding of environmental and natural resource issues, with a focus on their human, ethical, and cultural dimensions. Specific areas include: environmental communication and cultural studies; environmental education and interpretation; environmental ethics and philosophy; environment, development, peace, and global justice studies; environmental politics and advocacy; religion and environment; sustainability; and sustainable development.

**Minimum Degree Requirements**
In addition to the general M.S. in Natural Resources requirements, this concentration requires 18 to 21 credits of advanced courses and 15 credits in a specialization within environmental thought and culture, and 6 credits of project research or 6 to 9 credits of thesis research. Students pursue a thesis or project.

**FORESTRY CONCENTRATION**
The goal of this Master of Science concentration is to provide graduate students with advanced training in forest science and the opportunity to further their knowledge and proficiency in some specialized aspect of forestry. The faculty has research interests which span the broad areas of ecology, management, pathology, physiological ecology, sustainable forestry, and community forestry.

**Minimum Degree Requirements**
In addition to the general M.S. in Natural Resources requirements, this concentration requires 18 to 21 credits of advanced forestry and related courses, a comprehensive examination with both a written and oral component, and 6 credits of project research or 6 to 9 credits of thesis research. Students pursue a thesis or project.

**WILDLIFE BIOLOGY CONCENTRATION**
This Master of Science concentration is designed to provide a vehicle for a wildlife biologist to develop research abilities and pursue a specialized course of study. Current areas of research emphasis include applied avian ecology, behavioral ecology, game management, nongame wildlife populations, reserve design, and landscape ecology.

**Minimum Degree Requirements**
In addition to the general M.S. in Natural Resources requirements, the Wildlife Biology concentration requires 18 to 21 credits of course work in wildlife and related fields, a comprehensive examination with both a written and oral component, and 3 to 6 credits of project research or 6 to 9 credits of thesis research. Students pursue a thesis or project.