NATURAL RESOURCES M.S.

All students must meet the Requirements for the Master’s Degree

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 fifteen to twenty-four 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 six areas of concentration:

Aquatic Ecology and Watershed Science
Environment, Society and Public Affairs
Environmental Thought and Culture
Forestry
Wildlife Biology
Leadership for Sustainability (Low Residency)

Other areas of studies 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 (twenty-seven credits) will pursue academic and work experiences leading to development of professional skills emphasizing conservation leadership, ecological planning, and sustainable forestry. A three 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; satisfactory scores on the General Test of the Graduate Record Examination; 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 fifteen to twenty-seven credits of course work in related fields (including NR 385: 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 three to six credits of project research, or six to fifteen 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 one credit special topics seminar organized by faculty and students in the concentration, and at least twelve 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 six 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:
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- 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 twenty-one to twenty-four credits of advanced courses (including a methods course, three courses from an approved list of courses reflecting this concentration’s emphasis, and one ecology course), and three to six credits of project research or six 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 eighteen to twenty-one credits of advanced courses and fifteen credits in a specialization within environmental thought and culture, and six credits of project research or six to nine 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 eighteen to twenty-one credits of advanced forestry and related courses, a comprehensive examination with both a written and oral component, and six credits of project research or six to nine 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 eighteen to twenty-one credits of course work in wildlife and related fields, a comprehensive examination with both a written and oral component, and three to six credits of project research or six to nine credits of thesis research. Students pursue a thesis or project.

LEADERSHIP FOR SUSTAINABILITY (LOW RESIDENCY)
This Master of Science concentration is designed for emerging leaders who are rooted in their home organization/community and are committed to deepening their capacity to catalyze change and collaborate within and beyond their chosen professional field. The curriculum explores leadership practices inspired by the wisdom of nature and grounded in a critical inquiry of the mindsets, assumptions, and patterns of power and privilege that underlie change-making efforts. In addition, students choose one of two applied areas of specialization that provide specific skills and knowledge in either Ecological Economics or Ecological Leadership.

Minimum Degree Requirements
This concentration requires 30 total credits which includes:
- 6 credits in Leadership for Sustainability core courses (2 courses)
- 9 credits in chosen track specialization (3 courses)
- A comprehensive exam
- 6 credits of master’s project research and implementation
- Master’s presentation at Sustainability Leadership Summit
- 9 elective course credits (3 courses).