

NATURAL RESOURCES AND THE ENVIRONMENT (M.S.)

<https://colsa.unh.edu/natural-resources-environment/program/ms/natural-resources-environment>

Description

The Department of Natural Resources and the Environment offers a Master of Science program that provides advanced, research-based study in the ecology, biogeochemistry, economics, policy, and management of vital natural resources, including water, soil, forests, wildlife, and agricultural crops. Students take an interdisciplinary approach to their research and use the tools of the natural and social sciences, including geospatial methods, to make fundamental and significant contributions toward local, regional, and global sustainability.

Students are supported by a highly productive and internationally recognized faculty, outstanding laboratory facilities, and a diversity of accessible terrestrial, marine, and freshwater field sites. Research conducted by faculty and graduate students has resulted in UNH being ranked second of 316 North American institutions in scholarly contributions to the field of ecology.

Possible career trajectories are diverse. Some graduates pursue private sector environmental and social science consulting. Others seek positions in planning, environmental protection, research, or resource management with federal or state agencies (e.g., NOAA, USDA, EPA, NRCS), private industry, or with non-governmental organizations. Graduates from the environmental economics option may also find careers in agribusiness or banking. Graduates may choose to pursue advanced study at the doctoral level.

Students may choose to specify one of five options:

- **Ecosystem Science**
- **Environmental Conservation and Sustainability**
- **Environmental Economics**
- **Forestry**
- **Wildlife and Conservation Biology**

Requirements

Degree Requirements

An M.S. degree is conferred upon successful completion of a program of not less than 30 credits for natural resources and the environment options: forestry, environmental conservation and sustainability, environmental economics, ecosystem science, and wildlife and conservation biology.

Course Requirements or Equivalents

Code	Title	Credits
Select one of the following: ¹		
NR 903 & NR 905	Approach to Research and Grant Writing	4
or NR 903 & BIOL 902	Approach to Research and Writing and Publishing Science	
or NR 903 & BIOL 950	Approach to Research and Scientific Communication	

NR 993	Natural and Environmental Resources Seminar	2
NR 996 or LSA 900	Natural Resource Education College Teaching	2
Select one of the following Data Analysis courses: ¹		3-4
ANFS 933	Design, Analysis, and Interpretation of Experiments	
BIOL 811	Experimental Design & Analysis	
DATA 800	Introduction to Applied Analytic Statistics	
ECON 926	Econometrics I	
EDUC 904	Qualitative Inquiry in Research	
ESCI 801	Quantitative Methods in Earth Sciences	
MATH 835	Statistical Methods for Research	
MATH 840	Design of Experiments I	
MATH #969	Topics in Probability and Statistics I	
NR 909	Analysis of Ecological Communities and Complex Data	
POLT #905	Introduction to Statistical Analysis	
PSYC 805	Research Methodology and Statistics I	
PSYC 907	Research Methods and Statistics III	
SOC 901	Sociological Methods I: Intermediate Social Statistics	
SOC 903	Sociological Methods III: Advanced Social Statistics	
SOC 904	Sociological Methods IV: Qualitative and Historical Research Methods	
Select one of the following:		
NR 899	Master's Thesis (and a formal presentation of the thesis) ²	6
NR 998	Directed Research (and directed research results) ³	4

- ¹ Or other alternative with approval from the Graduate Coordinator.
- ² The thesis option will provide a research-based thesis that is the foundation for a peer-reviewed publication.
- ³ The directed research option shall consist of a project, designed and conducted by the student, culminating in a scholarly paper or report that is suitable for publication in the respective field of scholarship.

An approved program of study plan is required during the first semester.

Student Learning Outcomes

Key Learning Objectives:

- Knowledge and skills outcomes to ensure graduates of the MS program have mastered their discipline: demonstrate knowledge of theory and practice, as well as critical thinking skills and creativity, in conducting ecological, economic, and policy assessment of natural resource and environmental issues and developing solutions to environmental problems;
- successfully employ the field, laboratory, data analysis, and social science skills necessary to perform research concerning natural resources and their management;
- design, propose, and execute research addressing fundamental or critical issues in natural resources;
- contribute to scholarship through publication and presentation of research findings using diverse media.

Professional outcomes to ensure graduates of the MS program successfully compete for jobs in the public and private sectors:

- demonstrate mastery of theory and empirical knowledge in their research concentration and, more generally, in the relevant natural and/or social;
- use written and oral skills to communicate effectively with colleagues, stakeholders, and the public;
- integrate theory and practice to analyze, assess, and solve environmental and social problems and answer questions across diverse scales from local to global;

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- develop and employ interdisciplinary relationships and approaches to addressing environmental issues;
- interact with professional peers honestly and ethically, and in ways that show cultural sensitivity, inquisitiveness, and propensity for teamwork.