Natural Resources

Master of Science degree in Natural Resources — with concentrations in:
- Environmental Science & Management
- Fisheries
- Forest, Watershed & Wildland Sciences
- Wildlife

Minor in Natural Resources (see Environmental Science & Management)

Natural Resources Graduate Program
Forestry Building 101
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Graduate Coordinator
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The Program
A student in this program will:
- carry out a scientific investigation of phenomena in a natural system that includes: a) Formulation and statement of a research question based on literature review, b) Design and implementation of study using appropriate quantitative or qualitative methodology, c) Presentation of research results, and d) Discussion of the relationship of the research results to the field of study and their broader relevance.
- communicate scientific investigation in writing, using accepted structure, style, and format for scientific reports and papers in the discipline.
- communicate scientific investigation in oral presentation, using accepted structure, format, and visual aids for scientific presentations in the discipline
- apply appropriate mathematical, computer simulation, statistical models and/or qualitative methods in their research
- articulate the relationship of his/her scientific investigation to the physical, ecological, and/or socioeconomic aspects of a problem in the natural environment.

Program Admission Requirements
Applicants must possess preparation equivalent to the baccalaureate degree. Adequate academic preparation can best be demonstrated by a baccalaureate degree in the chosen option or in a closely related field. Applicants who lack adequate preparation may be required to make up academic deficiencies through additional course work. Such course work may not be used toward the graduate degree.

Applicants must have a minimum GPA of 3.00 for the last 60 undergraduate units. Applicants with extensive work experience, exceptional GPA, or GRE scores may be reconsidered by appeal to the department faculty to the Graduate Advisory Council through the graduate coordinator.

Applicants are not required to submit Graduate Record Exam (GRE) scores unless specifically requested by a potential faculty advisor. Applicants should contact the professor[s] they are interested in working with to determine if the GRE is needed.

Please refer to the College of Natural Resources & Sciences website at cnrs.humboldt.edu or contact CNRSmast@humboldt.edu for additional information.

REQUIREMENTS FOR THE DEGREE
For a description of degree requirements to be fulfilled in addition to those listed below see, “The Master’s Degree” section of the catalog, pp. 83-84.

Master of Science degree in Natural Resources: Environmental Science & Management Concentration
Total units required for the degree: 30

ESM graduate studies are oriented toward environmental analysis and land use planning; environmental science, particularly ecological restoration, renewable energy, and energy policy; recreational use of natural resources; and geospatial analysis of environmental and natural resource-related topics.

Required Courses
ESM 685 [1-3] Graduate Seminar
Enrollment in ESM 685 is required during two semesters of residence. A maximum of 2 units is applicable to the 30-unit requirement.

ESM 690 [1-4] Thesis (units as below)
ESM 695 [1-4] Field Research (units as below)

Students must enroll in 1 unit of both ESM 690 and ESM 695 during each semester of residence. Students may enroll in 1 unit through the College of Extended Education & Global Engagement their final semester if approved by their advisor.

Approved Electives
Approved upper division and graduate electives to bring total units to no fewer than 30 units. At least half of these units must be courses organized and conducted at the graduate level.

Culminating Experience
A thesis, a public oral presentation, and a closed formal defense are required.

Master of Science degree in Natural Resources: Fisheries Concentration
Total units required for the degree: 30

The Fisheries program is designed primarily to produce graduates who can assess, develop, and manage fish habitats, populations, and commercial and recreational fisheries. The program is broad enough to allow students to prepare themselves for work in additional areas such as water pollution, ecology, and fish culture.

Required Courses
FISH 310 [4] Ichthyology
FISH 558 [4] Fish Population Dynamics
FISH 685 [1] Graduate Fisheries Seminar
FISH 690 [1-4] Thesis (units as below)
FISH 695 [1-4] Research Problems in Fisheries (units as below)

Approved Electives
Approved upper division and graduate electives to bring total units to no fewer than 30 and no more than 60 units. At least half of these units must be courses organized and conducted at the graduate level.

During the first four semesters at HSU, all graduate students shall enroll in 3 units each of FISH 690 and FISH 695. In all subsequent semesters in residence, students shall enroll in at least 1 unit each of FISH 690 and FISH 695.

Culminating Experience
A thesis, a public oral presentation, and a closed formal defense are required.

Master of Science degree in Natural Resources: Forest, Watershed & Wildland Sciences Concentration
Total units required for the degree: 30

Graduate studies in Forest, Watershed & Wildland Sciences are oriented toward
generating a greater understanding of the ecology and management of forests, rangelands, and the soils and watersheds that support them. Graduate research is focused on a wide variety of topics, including forest ecology, fire science, forest growth and dynamics, forest operations analysis, watershed processes, rangeland ecology, soil science, and integrative analyses across these areas.

**Required Courses**


All students are required to enroll in at least 1 unit of at least two of the following courses every semester:

FWWS 690 [1-3] Thesis Research
FWWS 695 [1-3] Field Research Problems
FWWS 699 [1-4] Directed Study

**Approved Electives**

Approved upper division and graduate electives bringing the total units to no fewer than 30 units. At least half of these units must be courses organized and conducted at the graduate level.

**Culminating Experience**

A thesis, a public oral presentation, and a closed formal defense are required.

**Master of Science degree in Natural Resources: Wildlife Concentration**

**Total units required for the degree: 30**

Wildlife focuses on the conservation, management, ecology, behavior, and habitat requirements of wildlife species. Research projects emphasize the application of science to addressing issues in wildlife conservation and management.

**Required Courses**

WLDF 585 [1-3] Seminar in Wildlife Management
WLDF 690 [1-3] Thesis
WLDF 695 [1-3] Advanced Field Problems

**Approved Electives**

Approved upper division and graduate electives to bring total units to no fewer than 30 units. At least half of these units must be courses organized and conducted at the graduate level.

**Culminating Experience**

A thesis, a public oral presentation, and a closed formal defense are required.