

# FORESTRY

**Bachelor of Science degree with a major in Forestry** — concentrations in: Forest Hydrology, Forest Operations, Forest Conservation, Forest Soils, and Wildland Fire Management

## Minor in Fire Ecology

## Minor in Forestry

## Minor in Watershed Management

See *Natural Resources* for details on the Master of Science degree.

## Department Chair

David F. Greene Ph.D.

## Department of Forestry and Wildland Resources

Forestry Building 205  
707-826-3935  
[www.humboldt.edu/fwr](http://www.humboldt.edu/fwr)

## The Program

Students completing this program will have demonstrated:

- understanding of taxonomy, autecology of trees, plant and wood identification; physiology of trees; ecological concepts, ecosystem processes, structure and function; soil formation, classification, composition and properties; silvicultural principles, stand structure and composition; growth and quality of forests and forest health; fire ecology and use of fire; entomology and pathology; wildlife and fish ecology; plant, soil, water interactions, watershed processes, land measurement, mapping, photogrammetry, remote sensing; sampling theory and methods, statistical literacy; measurement of trees, forests, and forest products; wildlife habitat assessment; measurement of water yields and quality; assessment of non-timber forest values; integrated forest management, multiple-use principles; stand scale management; system and landscape management; forest engineering and road design; harvesting systems; utilization; policy development, sociological influences; administration, environmental regulation; land and resource planning; budgeting, finance, personnel management, cost, and economics

- capable practice of critical thinking; writing; quantitative thinking; public speaking, debate and persuasion; leadership; group cooperation; conflict resolution; time management; professional integration; independent life-long learning; computer literacy and skills
- the attributes of adaptability; integrity; open-mindedness; professional decorum.

Humboldt State University is located in the heart of the coast redwood forest. This environment provides outdoor classrooms for more than half of the forestry courses. Field trips illustrate lecture concepts and teach field techniques.

Excellent on-campus laboratories complement the outdoor lab. Students have access to the college forest, the Schatz Tree Farm, public and private forest lands, and various production centers. Because Humboldt County also has a large forest products industry, Humboldt State is an excellent place to study the resolution of environmental issues with economic concerns.

Students and faculty interact with professional forest managers and researchers of the region both in the classroom and in the field.

Forestry is an incorporative discipline, drawing from the biological, physical, social, and managerial sciences. The curriculum aids in understanding the biological complexities of the forest and the interactions between the forest and social and economic demands.

The program provides sufficient background and depth of education to give a sound basis for professional growth within a broad range of forestry-related careers. Our graduates often start as forest rangers, park rangers, fire fighters, timber cruisers, or surveyors. Some hold staff positions in the federal and state agencies, forest products industry, or with environmental organizations. Graduates go on to build careers in: wildland fire management, forest management, forest protection, park management, watershed management, forest biology, forest engineering, industrial management, resource planning, forest conservation, and research and education.

Visit our webpage at [www.humboldt.edu/fwr](http://www.humboldt.edu/fwr).

## Preparation

In high school, take a broad background. Biological/physical sciences, mathematics, social sciences, and the arts are helpful.

## REQUIREMENTS FOR THE MAJOR

For a description of degree requirements to be fulfilled in addition to those listed below for the major, please see "The Bachelor's Degree" section of the catalog, pp. 66-80, and "The Master's Degree" section of the catalog, pp. 81-83.

## Core Courses

### Lower Division

- At least one course in a basic biological science that meets general education requirements and is comparable to BOT 105 (4 units);
- At least one course in a basic physical science that meets general education requirements and is comparable to CHEM 107 (4 units);
- One course in calculus which includes integration, meets general education requirements, and is comparable to MATH 105 (3 units);
- Plus the following:
  - ESM 105 (3) Natural Resource Conservation
  - FOR 130 (3) Dendrology
  - FOR 131 (3) Forest Ecology
  - FOR 210 (4) Forest Measurements and Biometry
  - FOR 222 (2) Forest Health and Protection
  - FOR 223 (2) Intro to Wildland Fire
  - FOR 250 (3) Intro to Forest Operations
  - GSP 101/GSP 101L (2/1) Geospatial Concepts and Lab
  - GSP 216 (3) Intro to Remote Sensing
  - GSP 270 (3) Geographic Information Science (GIS)
  - SOIL 260 (3) Intro to Soil Science

Take all lower division courses before beginning upper division work.

### Upper Division

- ESM 305 (3) Environmental Conflict Resolution
- FOR 311 (4) Forest Mensuration & Growth
- FOR 331 (3) Silvics — Foundation of Silviculture
- FOR 365 (3) Forest Financial Administration
- FOR 432 (4) Silviculture
- FOR 359 (3) CA & US Forest & Wildland Policy
- FOR 471 (3) Forest Administration & Ethics
- FOR 479 (3) Forestry Capstone
- WSHD 310 (4) Hydrology & Watershed Management

Plus one of the following:

- FISH 300 (3) Intro to Fishery Biology
- GEOL 306 (3) General Geomorphology
- RRS 306 (3) Wildland Resource Principles

### Forest Hydrology Concentration

Core courses plus:

#### Lower Division

- GEOL 109 (4) General Geology
- MATH 205 (3) Multivariate Calculus for the Biological Sciences & Natural Resources
- PHYX 106 (4) College Physics: Mechanics & Heat, **or**
- PHYX 109 (4) General Physics I: Mechanics

#### Upper Division

- SOIL 467 (3) Soil Physics
- WSHD 333 (3) Wildland Water Quality, **or**
- WSHD 424 (3) Watershed Hydrology

This program meets the qualifications for "Forester" and for "Hydrologist" in federal employment.

### Forest Operations Concentration

Core courses plus:

- FOR 117 (1) Forestry First Year Seminar
- FOR 350 (3) Forest Harvesting Systems
- FOR 353 (3) Forest Road Location & Design
- FOR 450 (3) Harvesting Systems Design & Cost Analysis
- FOR 475 (3) Forest Management Decision Making

Plus one of the following:

- FOR 423 (3) Wildland Fuels Management
- FOR 431 (3) Forest Restoration
- WSHD 458 (3) Climate Change & Land Use

This program meets the qualifications for "Forester" in federal employment.

### Forest Conservation Concentration

Core courses plus:

- FOR 117 (1) Forestry First Year Seminar
- FOR 321 (3) Fire Ecology
- FOR 430 (3) Forest Ecosystems
- FOR 475 (3) Forest Management Decision Making

Plus two of the following:

- FOR 374 (3) Wilderness Area Management
- FOR 431 (3) Forest Restoration
- GSP 370 (3) Intermediate Geographic Information Science (GIS)
- RRS 370 (3) Wildland Ecology Principles

- SOIL 468 (3) Intro to Agroforestry
- WHSD 458 (3) Climate Change & Land Use

This program meets the qualifications for "Forester" in federal employment.

### Forest Soils Concentration

Core courses plus:

- FOR 117 (1) Forestry First Year Seminar, **or**
- SOIL 285 (1) Rangeland Resource Seminar
- GEOL 109 (4) General Geology
- SOIL 360 (3) Origin & Classification of Soils
- SOIL 460 (3) Forest & Range Soils Management

Plus two of the following:

- SOIL 363 (3) Wetland Soils
- SOIL 462 (3) Soil Fertility
- SOIL 465 (3) Soil Microbiology
- SOIL 467 (3) Soil Physics

This program meets the qualifications for "Forester," "Soil Scientist," and "Soil Conservationist" in federal employment.

### Wildland Fire Management Concentration

Core courses plus:

- FOR 117 (1) Forestry First Year Seminar
- FOR 321 (3) Fire Ecology
- FOR 323 (3) Wildland Fire Behavior
- FOR 423 (3) Wildland Fuels Management

Plus two of the following:

- FOR 422 (3) Wildland Fire Use
- FOR 431 (3) Forest Restoration
- FOR 475 (3) Forest Management Decision Making
- GSP 370 (3) Intermediate Geographic Information Science (GIS)
- RRS 370 (3) Wildland Ecology Principles
- WHSD 458 (3) Climate Change & Land Use

This program meets the qualifications for "Forester" in federal employment.

## REQUIREMENTS FOR THE MINORS

### Fire Ecology Minor

See Fire Ecology

### Forestry Minor

Required courses:

- FOR 130 (3) Dendrology
- FOR 131 (3) Forest Ecology
- FOR 210 (4) Forest Measurements and Biometry
- FOR 315 (3) Forest Management

Plus one of the following four courses:

- FOR 302 (3) Forest Ecosystems & People
- FOR 321 (3) Fire Ecology
- FOR 374 (3) Wilderness Area Mgmt.
- FOR 431 (3) Forest Restoration

### Watershed Management Minor

See Watershed Management

