

# FORESTRY (FOR)

## **FOR 100 Forestry Program Orientation (1 Credit)**

Provides students with an orientation to the Forest Resources Technology program. Designed to give students knowledge and tools to succeed in the Forest Resources AAS, the natural resources work force, and in an academic career beyond COCC. The course is required of all students seeking the Forest Resources Technology AAS degree, and is highly recommended for students in the Wildland Fire program. P/NP grading.

## **FOR 110 Wildland Fire Science I (2 Credits)**

Focuses on the effects of Wildland Fire Policy, current fire suppression strategies and tactics; weather, topography, fuel models and how each interact to effect fire behavior. Additional topics include the wildland fire environment as it relates to situational awareness and personal safety. An overview of modern wildland firefighting with an emphasis on understanding and applying fireline safety. Course cannot be challenged, but will be waived for those with proof of wildland fire single resource status.

## **FOR 111 Forestry Perspectives (4 Credits)**

Introduction to the entire discipline of forestry, including the history of forest use and management, North American forest regions, forest ecology, mensuration and management, forest products and the importance of forest resources other than wood fiber. Also provides overview of state, regional and local employment opportunities.

## **FOR 126 Field Studies Pacific NW Forests (1 Credit)**

This course examines the ecology, management, and human uses of Pacific Northwest forests. Field experience takes place during a 4-day field trip to the Oregon coast and Northern California and includes visiting forest environments, forest product manufacturing facilities, field lectures and guided tours, as well as individual and small-group exercises.

## **FOR 127 Plants of the Pacific Northwest (1 Credit)**

Identification, classification and distribution of shrubs, forbs, and grasses found in low-, mid-, and high-elevation Oregon habitat types. Emphasis is placed upon proper field identification through use of terminology and taxonomic keys. Also discusses sensitive plants and noxious weeds.

## **FOR 130 Chainsaw Use and Maintenance (2 Credits)**

Covers basic tree falling, bucking and limbing techniques. Equipment safety, use, maintenance and repairs of saws is covered. Designed for inexperienced or novice chainsaw operators or can be used as refresher course for experienced saw operators.

## **FOR 180 Co-op Work Experience Forestry (1-7 Credits)**

Provides opportunity for on-the-job training in forestry field operations, forest products manufacturing or work related to these areas. Normally undertaken during summer months on a full-time basis but can occur any term.

## **FOR 195 Wilderness Concepts (2 Credits)**

Introduction to concepts of wilderness and wilderness management principles. Introduction to the history of wilderness and the National Wilderness Preservation System.

## **FOR 199 Selected Topics: Forestry (1-5 Credits)**

**Prerequisites:** instructor approval.

Provides opportunity for students with exceptional background or need to continue beyond normal program content. Content and credit earned by mutual agreement between instructor and student and detailed in written agreement. Maximum of three credits may be applied to degree.

## **FOR 208 Soils: Sustainable Ecosystems (4 Credits)**

Focuses on soil science basics, from physical properties to use and management. Discusses traditional agricultural, wildlands and rangelands, watersheds, and modern environmental perspectives on soil. Reviews new soil applications and soil science to better understand the role soil has in our lives. Includes lab component with indoor and outdoor experience and field trips.

## **FOR 209 Fire Ecology and Effects (3 Credits)**

Discusses the role of fire in Pacific Northwest ecosystems. Identifies effects on flora, fauna, soils, water; fire and cultural/visual resource management; fire and insect interactions. Covers the effects of fire on different forest and range ecosystems.

## **FOR 210 Wildland Fire Science II (2 Credits)**

A study of hazardous fuel management and treatment practices. Incorporates current fuel measurement and analysis techniques, fire behavior prediction models and hazardous wildland fuel mitigation methods.

## **FOR 211 Supervision and Leadership (3 Credits)**

Covers basic human relations and management skills as applied to first-line supervision and leadership in forestry and natural resource environments. Defines the work environment and identifies and discusses subordinate, peer, and supervisory relationships.

## **FOR 215 Forest Resource Capstone (3 Credits)**

**Prerequisites:** instructor approval.

Students conduct a sample survey of a large area and present their findings, along with recommendations for management of the area, in a written report. Oral presentation also made to department staff. Limited to second year students or those who have fulfilled majority of Forest Resources Technology Degree requirements.

## **FOR 230A Map, Compass and GPS (3 Credits)**

Teaches the basic skills of field and forest navigation with compass and GPS. Competency obtained in pacing, paper and computer map use, compass and basic GPS use.

## **FOR 230B Forest Surveying (3 Credits)**

**Recommended preparation:** FOR 230A or instructor approval.

Studies basic surveying techniques and equipment emphasizing traversing, differential leveling, profiling, GPS mapping and basic coordinate geometry.

## **FOR 235 Resource Measurements (4 Credits)**

**Recommended preparation:** MTH 102 or a course from the foundational requirements math list.

Students will learn the fundamentals of measuring and quantifying natural resources, including cruising and scaling timber to determine merchantable volume, quantifying wildlife and fisheries habitat, measuring and estimating forage production for wildlife and livestock, and sampling wildlife populations. Course will also introduce basic statistical concepts and their applications in resource management. First course in the sequence of FOR 235, FOR 236, and FOR 237.

## **FOR 236 Aerial Photo (3 Credits)**

**Recommended preparation:** MTH 102 or a course from the foundational requirements math list and FOR 230B.

Covers practical use of aerial photographs including photo interpretation, navigation, scale, area and distance determination, corner search, basic type-mapping and GPS application. Second course in the sequence of FOR 235, FOR 236, and FOR 237.

**FOR 237 Resource Sampling (3 Credits)**

**Recommended preparation:** MTH 102 or a course from the foundational requirements math list; FOR 235 and FOR 236. Recommended to be taken with: FOR 238.

Includes instruction in log scaling, tree measurement techniques, sampling statistics, tree volume and tree taper equations, sampling and field procedures for equal probability (sample tree and fixed area) and variable probability (3P and point sampling) sampling systems. Concludes the sequence of FOR 235, FOR 236, and FOR 237.

**FOR 238 Forestry Data Analysis (3 Credits)**

**Recommended to be taken with:** FOR 237.

Covers the fundamentals of storing, analyzing, and presenting data. Emphasizes the use of spreadsheets, databases, descriptive statistics, and linear regression to analyze and present data in the context of natural resource management.

**FOR 240A Forest Ecology (3 Credits)**

Provides students with an overview of basic plant structure and function and introduces students to functioning of forest ecosystems. Class will examine the physical environment and how it affects growth and distribution of organisms and ecological processes. Course concludes with an examination of communities, disturbance and succession.

**FOR 240B Wildlife Ecology (3 Credits)**

**Recommended preparation:** FOR 240A.

Explores wildlife ecology and biodiversity in context of forest and range management. Focuses on relationship between wildlife and forest and range ecosystems, and examines the role of forest and range management in wildlife habitat management.

**FOR 241A Field Dendrology (3 Credits)**

Identification, classification, and distribution of common trees and shrubs found in the Western United States and major tree species of North America. The course emphasizes botanical nomenclature and proper identification using plant keys and field characteristics.

**FOR 241B Dendrology (3 Credits)**

Covers identification, classification and distribution of plant communities (tree, shrub, forb and grass) found within Oregon and major North American plant communities. Covers in lecture format the structure and function of the primary organs and tissues that comprise woody plants. This course is the classroom portion of FOR 241A. Course does not need to follow FOR 241A.

**FOR 251 Recreational Resource Management (3 Credits)**

Overview of recreational resource management including study of land and water resources used for outdoor recreation. Includes planning and management of natural and cultural resources for long-term resource productivity.

**FOR 255 Resource Interpretation (3 Credits)**

Introduces fundamental theories of interpretation and active and passive techniques of interpretation including: activities, presentations, signage, brochures and information kiosks. Course allows optional certification as an interpreter.

**FOR 260 Conservation of Natural Resources (3 Credits)**

**Recommended preparation:** WR 121Z.

Examines current use and issues surrounding natural resources availability and management as well as the effect of human population on resource use and the environment. Includes critical analysis of sustainable development and resource use concepts, including principles of conservation and management. Emphasizes current issues. Two-day field trip required.

**FOR 271 Applied Forest Ecology (3 Credits)**

**Recommended preparation:** FOR 240A and FOR 241A.

Applies principles of forest ecology to develop a basic understanding of forest stand dynamics and silvicultural principles. Emphasis is placed on stand development, regeneration and stand analysis. Students will develop a practical understanding of stand establishment, maintenance and stand data collection. First course in sequence of FOR 271, FOR 272, and FOR 273.

**FOR 272 Forest Entomology/Pathology (3 Credits)**

**Recommended preparation:** FOR 240A and FOR 241A.

Emphasizes the recognition and effects of diseases, insects and mammals affecting forest ecosystems in the Pacific Northwest. Course will examine the role of insects, diseases and animals in forest functioning, health and management, as well as control measures and integrated pest management. Lab work is largely field-based and emphasizes identification of damaging forest insects and diseases common in Oregon. Second course in the sequence of FOR 271, FOR 272, and FOR 273.

**FOR 273 Silviculture and Harvesting Systems (5 Credits)**

**Recommended preparation:** FOR 271, FOR 272, and FOR 235.

Emphasizes interrelated systems of silviculture and harvesting. Discussions provide an understanding of the various treatments and harvesting systems applied to forest stands to meet various management objectives for forest ecosystems. Topics include forest regeneration processes and intermediate operations (thinning, pruning, etc.) and different methods of timber harvest. Observation and data collection will be performed in lab sections. Written reports interpreting prescriptions and harvest systems will be required. Last course in a sequence of FOR 271, FOR 272, and FOR 273.

**FOR 298 Independent Study: Forestry (1-6 Credits)**

**Prerequisites:** Instructor approval.

**Recommended preparation:** prior coursework in the discipline. Individualized, advanced study to focus on outcomes not addressed in existing courses or of special interest to a student. P/NP grading.

**FOR 299 Selected Topics: Forestry (1-5 Credits)**

This course is in development.