

## Forestry course descriptions – Clemson

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### FORESTRY (FOR)

#### **FOR 101 Introduction to Forestry 1(1,0)**

Informative sketch of forestry, forests, and forestry tasks of the nation. Includes education and career opportunities for foresters. Offered fall semester only.

#### **FOR 205 Dendrology 2(1,3)**

Classification, nomenclature, and identification of the principal forest trees of the United States, their geographical distribution, ecological requirements, and economic importance. Includes field identification of native trees and commonly planted exotics of the Southeast. *Preq:* BIOL 103/105. *Coreq:* FOR 221 or consent of instructor.

#### **FOR 206 Forestry Ecology 3(2,3)**

Study of the nature of forests and forest trees, how they grow, reproduce, and their relationships to the physical and biological environment. Offered spring semester only. *Preq:* BIOL 103/105, CSENV 202, OR 205 or consent of instructor.

#### **FOR 221 Forest Biology 3(3,0)**

Study of woody plant form and function, wood properties, general physiology and forest biomes of North America. Presented as a companion course to dendrology lab. *Preq:* BIOL 103/105. *Coreq:* FOR 205 or consent of instructor.

#### **FOR 227 Arboricultural Field Techniques 1(0,3)**

Skills and techniques required to safely climb trees for tree maintenance. Emphasizes safety, proper equipment, and basic tree maintenance treatments. To be taken Pass/Fail only.

#### **FOR 251 Forest Communities 2(0,6)**

Study of forest plant species and their successful status and habitat requirements with respect to landform, soil type, and other appropriate aspects of site classification. *Preq:* FOR 205 or consent of instructor.

#### **FOR 253 Forest Mensuration 4(0,12)**

Introduction to measurements of land, individual trees, forest stands, forest products, and the application of mensurational techniques to the statistical and physical design of forest sampling methods, including measurement techniques of non-timber components of forest resources. *Preq:* FOR 205 or consent of instructor.

#### **FOR 254 Forest Products (Summer Camp) 1(0,3)**

Tour of the forest products industry of South Carolina emphasizing those products and processes of some distinction or special interest. *Preq:* FOR 205 or consent of instructor.

#### **FOR 300 Christmas Tree Production 2(2,0)**

Theory and practice of establishing, managing, and marketing trees emphasizing Christmas tree production in the South. *Preq:* Consent of instructor.

#### **FOR 302 Forest Biometrics 2(1,3)**

Application of statistical methods to forestry problems including sampling theory and methods, growth measurements and prediction, and application of microcomputing to analysis of forestry data. *Preq:* FOR 253. *Coreq:* EX ST 301 or consent of instructor.

#### **FOR 304 Forest Resource Economics 3(3,0)**

Economic problems and principles involved in the utilization of forest resources and distribution of forest products. Includes analysis of integrated forest operations. *Preq:* ECON 200 or consent of instructor.

#### **FOR 305 Woodland Management 3(2,2)**

Compendium of forestry subjects providing a broad view of the forest environment as it relates to ecology, management, and utilization of forests, especially those of South Carolina. Field and laboratory exercises in the fundamentals of forest-land management. Not open to Forest Resource Management majors. *Preq:* BIOL 103/105 or consent of instructor.

**FOR 308 Remote Sensing and GIS in Forestry 2(1,3)**

Introduction to remote sensing, aerial photo interpretation, computer mapping, aerial photo timber estimating, and geographical information systems. *Preq:* Forestry summer camp or consent of instructor.

**FOR 314 Harvesting and Forest Products 4(3,3)**

Harvesting of forest products, structure and properties of economically important timbers, and production and properties of primary forest products. *Preq:* Forestry summer camp or consent of instructor.

**FOR 315 Woodland Ecology 3(3,0)**

Overview of the forest emphasizing the living and nonliving components of the woodland habitat. Understanding man's use of the forest and interpreting the signs of plants, wildlife, and landscapes.

**FOR 341 Wood Procurement Practices in the Forest Industry 3(3,0)**

Study of wood raw material procurement practices currently employed by the forest products industry, including pulp, paper, and related areas. *Preq:* Consent of instructor.

**FOR 400, 600 Public Relations in Natural Resources 3(3,0)**

Identifying relevant policies, their characteristics and acceptance to natural resource management, and techniques of maintaining appropriate public relations. *Preq:* Senior standing.

**FOR 406 Forested Watershed Management 2(1,3)**

Lectures and discussions on measurements and processes affecting water quality and quantity within watersheds. Introduction to hydrologic principles, geomorphology, and water quality assessment. Discusses best management practices for silviculture and development of a watershed management plan. *Preq:* FOR 315 or consent of instructor.

**FOR 413, 613 Integrated Forest Pest Management 4(3,3)**

Nature and control of pests of forest trees and products. Focuses on the relation of pests to silviculture, management, and natural forest ecosystems. *Preq:* Junior standing in Forest Resource Management.

**FOR 415, 615 Forest Wildlife Management 3(2,3)**

Principles, practices, and problems of wildlife management emphasizing upland forest game species. Habitat manipulation through use of appropriate silvicultural practices in association with other techniques is evaluated. *Preq:* FOR 460 or consent of instructor.

**FOR (E N R) 416, 616 Forest Policy and Administration 2(2,0)**

Introduction to the development, principles, and legal provisions of forest policy in the United States and an examination of administrative and executive management in forestry.

**FOR 417, 617 Forest Resource Management and Regulation 3(3,0)**

Fundamental principles and analytical techniques in planning, management, and optimization of forest operations. *Preq:* FOR 302, 308, 418, 460.

**FOR 418, 618 Forest Resource Valuation 3(3,0)**

Analysis of capital investment tools and their application to decision making among forestry investment alternatives; valuation of land, timber, and other resources associated with forestry, including the impact of inflation and taxes. *Preq:* FOR 304 or consent of instructor.

**FOR 419 Senior Problems 1-3(1-3,0)**

Problems chosen with faculty approval in selected areas of forestry. With department chair's approval, may be repeated once for credit. *Preq:* Senior standing.

**FOR 423, 623 Current Issues in Natural Resources 2(2,0)**

Lectures in various fields of forestry delivered by selected representatives from forest industries, consultants, agencies, associations, and other forestry operations. Will not be taught when enrollment is less than 15. To be taken Pass/Fail only. *Preq:* Junior standing or consent of instructor.

**FOR 425 Forest Resource Management Plans 2(1,3)**

Development of multiple resource forest management plans. Economic and environmental impacts of implementing management plans. *Preq:* FOR 417 or consent of instructor.

**FOR 426, H426 Forest Resource Management Plans Seminar 1(1,0)**

In-depth exploration of topics and problems presented in FOR 425. To earn honors credit, students must be enrolled in corequisite FOR 425 and earn a *B* or better in both courses. *Preq:* Senior standing, approval of Department of Forest Resources. *Coreq:* FOR 425.

**FOR (HORT) 427, 627 Urban Tree Care 3(3,0)**

Principles, practices, and problems of protecting and maintaining trees in urban and recreational areas. Examines environmental and biological factors affecting trees in high-use areas, their management and cultural requirements, and the practices necessary for their protection and care as valuable assets in the landscape. *Preq:* Junior standing or consent of instructor.

**FOR 431, 631 Recreation Resource Planning in Forest Management 2(1,3)**

Analysis of forest recreation as a component of multiple-use forest management; techniques of planning; physical and biological effects on forest environments; and forest site, user, and facility management.

**FOR 433, 633 GPS Applications 3(2,3)**

Develops competence in global positioning system (GPS) technology including theory, methods, and application to natural resources mapping. Topics include basic concepts of GPS; projection systems; types of data; mission planning; and data capture, correction, and export to geographical information systems (GIS). *Preq:* Senior standing or consent of instructor.

**FOR (E N R) 434, 634 Geographic Information Systems for Landscape Planning 3(2,3)**

Develops competence in geographic information systems (GIS) technology and its application to various spatial analysis problems in landscape planning. Topics include data development and management, spatial analysis techniques, critical review of GIS applications, needs analysis and institutional context. GIS hardware and software, hands-on application. Credit may be received for only one of C R P 434, FOR (E N R) 434.

**FOR 441, 641 Properties of Wood Products 3(3,0)**

Basic properties of wood, including the hygroscopic, thermal, electrical, mechanical, and chemical properties; standard testing procedures for wood. *Preq:* Junior standing or consent of instructor.

**FOR 442, 642 Manufacture of Wood Products 3(3,0)**

Study of the manufacture of lumber, plywood, poles, piles; drying, preservation, grading, and uses of wood products. Considers the manufacture of particleboard, flakeboard, oriented-strand board, fiberboard, and paper products. Includes physical, mechanical, and chemical properties and their applications. *Preq:* Consent of instructor.

**FOR 444, 644 Forest Products Marketing and International Trade 3(3,0)**

Study of marketing and international trade practices currently employed by the forest products industry and the application of basic marketing principles and global trade concepts in the industry's current and future environment. *Preq:* FOR 442 or consent of instructor.

**FOR 447 Special Problems in Forest Products 1-3(0,3-9)**

Laboratory, library, or field study of problems in selected areas of forest products. Emphasizes the planning and execution of research and the reporting of results. Research must be conducted under the guidance of a Forest Products faculty member. May be repeated for a maximum of three credits, but only if different topics are covered. *Preq:* Senior standing and consent of instructor supervising the study.

**FOR 450, 650 Woody Plant Stress Physiology**

**3(3,0)** Structure, function, and physiology of tree shoot and crown growth, wood formation, diameter growth, root growth, and reproduction especially as related to stress factors. *Preq:* BIOSC 401 or FOR 460 or consent of instructor.

**FOR (B E, EE&S) 451, H451, 651 Newman Seminar and Lecture Series in Natural Resources Engineering 1(0,2)** See B E 451.**FOR H461 Silviculture Honors Seminar I 1(1,0)**

In-depth exploration of topics and problems presented in FOR 465. To earn honors credit, students must be enrolled in FOR 465 and earn a *B* or better in both courses. *Preq:* Junior standing and approval of Department of Forest Resources. *Coreq:* FOR 465.

**FOR H463 Silviculture Honors Seminar II 1(1,0)** In-depth exploration of topics and problems presented in FOR 465. To earn honors credit, students must be enrolled in FOR 465 and earn a *B* or better in both courses. *Preq:* Junior standing and approval of Department of Forest Resources. *Coreq:* FOR 465.

**FOR 465, 665 Silviculture 4(3,3)**

Discussion of the theory and practice of manipulating forests to meet the needs and values of landowners and society in accordances with biological, ecological, and economic principles. *Preq:* FOR 206 and Forestry Summer Camp or consent of instructor.

**FOR 480 Selected Topics in Urban Forestry 1-3(1-3,0)**

Study of selected and varied topics, problems, and issues in urban forestry and arboriculture through readings, class discussion, and individual and group projects. *Preq:* FOR (HORT) 427.

**FOR 493 Selected Topics in Forest Resources 1-15(1-15,2-30)**

Specialized topics not covered in other courses which explore current areas of research and management in forest resources in a format of lecture, lab, or both. May be repeated for a maximum of 15 credits, but only if different topics are covered. *Preq:* Junior standing or consent of instructor.

**FOR 498 Senior Portfolio 1(1,0)**

Collection of Web-based materials representing the creative and scientific papers, presentations, and résumés written by students to satisfy curriculum requirements. Students are informed in F N R 102 and regularly thereafter regarding the format and content of their portfolios. *Preq:* Senior standing in Forest Resource Management. *Coreq:* FOR 425.

**FORESTRY AND NATURAL RESOURCES (FNR)**

**F N R 102 Forestry and Natural Resources Freshman Portfolio 1(1,0)**

Informative sketch of forestry, wildlife biology, and natural resources; education and career opportunities for natural resource professionals. Students initiate their Web-based student portfolios which showcase their skills and experiences (e.g., résumés, accomplishments, and work samples) during their undergraduate degree. To be taken Pass/Fail only. Restricted to Environmental and Natural Resources, Forest Resource Management, Forestry and Natural Resources–Undeclared, and Wildlife and Fisheries Biology majors only.

**F N R 466, 666 Stream Ecology 3(2,3)**

Covers the ecology of flowing water systems. Topics include geomorphology, physical and chemical factors of streams, biology of stream-dwelling organisms, trophic relationships, competition, colonization, drift, community structure, disturbance, and human impacts. *Preq:* Junior standing or consent of department chair.

**F N R 470 Creative Inquiry 1-3(1-3,0)**

Multisemester commitment to participate in forestry and natural resources research with a group of peers, mentored by a faculty member or advanced graduate student. Students learn to collect, analyze, evaluate, and present information. May be repeated for a maximum of six credits. *Preq:* Consent of instructor.

**F N R H491 Senior Honors Thesis I 3(3,0)**

Individual research for students in the Forestry and Natural Resources Honors Program. Focuses on developing a plan of research under the direction of a faculty advisory committee. *Preq:* Senior standing, membership in Calhoun Honors College, and approval of Department of Forestry and Natural Resources.

**F N R H492 Senior Honors Thesis II 3(3,0)**

Individual natural resources research for students in the Forestry and Natural Resources Honors Program. Focuses on data collection, analysis, report writing, and oral presentation. *Preq:* F N R H491.

**F N R 499 Natural Resources Seminar 1(1,0)**

Exploration of current literature and research in natural resources. Students participate in the analysis of research findings, utilizing skills acquired in their undergraduate programs. May be repeated for maximum of two credits.