

FOREST, FISHERIES, AND GEOMATICS SCIENCES

Not all courses are offered every semester. Refer to the schedule of courses for each term's specific offerings.

More Info (<https://one.ufl.edu/soc/>)

Unless otherwise indicated in the course description, all courses at the University of Florida are taught in English, with the exception of specific foreign language courses.

School Information

The School of Forest, Fisheries, and Geomatics Sciences is a unit within the Institute of Food and Agricultural Sciences (IFAS) and the College of Agricultural and Life Sciences (CALS). The school is home to three distinct yet integrated program areas: Fisheries and Aquatic Sciences (<http://sfrc.ufl.edu/fish/>), Forest Resources and Conservation (<http://sfrc.ufl.edu/forest/>), and Geomatics (<http://sfrc.ufl.edu/geomatics/>). The school's faculty, staff, and students conduct research, teaching, and extension that cuts across a wide range of environments and disciplines.

Website (<http://sfrc.ufl.edu/>)

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Map (<http://campusmap.ufl.edu/#/index/0832>)

Curriculum

- Combination Degrees
- Fire Ecology and Management Certificate
- Fisheries and Aquatic Sciences Minor
- Forest Resources and Conservation
- Forest Resources and Conservation Minor
- Geomatics
- Geomatics Certificate
- Mapping with Small Unmanned Aerial Systems Certificate
- Natural Resource Conservation

Courses

FAS 4175 Algae Biology and Ecology 3 Credits

Grading Scheme: Letter Grade

The biology and ecology of aquatic algae, including evolution, classification, structure, photosynthesis, growth, and reproduction. Emphasis on the ecological role of algae in different aquatic ecosystems (e.g. open ocean, estuaries, coral reefs, rocky intertidal), their impacts (e.g. harmful algae blooms, food webs), and their applications (e.g. food, biochemical).

Prerequisite: BSC 2010 and BSC 2010L, or equivalent.

FNR 3020 Professional Practice in Natural Resources 1 Credit

Grading Scheme: Letter Grade

Prepare for professional success by emphasizing careers involving fieldwork. Addresses securing the student's first position (resume, interviewing, etc.), professional ethics and practice (ethical frameworks, work-life balance, etc.), and avenues for advancement (references, professional organizations, etc.). Intended for Forest Resources and Conservation, Natural Resource Conservation and related majors.

Prerequisite: junior College of Agricultural and Life Sciences student with a major of Forest Resources and Conservation or Natural Resource Conservation.

FNR 3131C Dendrology/Forest Plants 3 Credits

Grading Scheme: Letter Grade

Provides a basic understanding of the classification, nomenclature, morphology, ecological relationships, associations and uses of the major forest tree and shrub species of North America.

Prerequisite: refer to the department.

FNR 3410C Natural Resource Sampling 3 Credits

Grading Scheme: Letter Grade

Basic concepts of sampling. Design of cost-effective sample surveys. Sampling methodology applicable to natural resources: simple random, stratified, systematic, multi-phase and multi-stage. Cluster sampling, ratio, regression and difference estimation. Line transects. Computer simulation of sampling methods. Introduces remote sensing, geographic information and global positioning systems.

Prerequisite: STA 2023.

FNR 4070C Environmental Education Program Development 3 Credits

Grading Scheme: Letter Grade

Applies a comprehensive approach to program development, from needs assessment to evaluation, to non-formal environmental opportunities. Analyzes existing and developing programs and emphasizes the role of participation and indicators in meeting environmental objectives. Requires field trips.

Prerequisite: junior standing or higher.

FNR 4343C Forest Water Resources 3 Credits

Grading Scheme: Letter Grade

Watershed hydrology, balances and models. Water quality parameters, processes and loading. Ecosystem and watershed functions. Watershed resources management.

Prerequisite: SWS 3022 and SWS 3022L, or the equivalent.

FNR 4461 Spatial Models and Decision Analysis 3 Credits

Grading Scheme: Letter Grade

Concepts and applications of environmental modeling in a spatial context using descriptive and prescriptive tools and spatial reasoning.

Prerequisite: FOR 3434C or the equivalent, basic statistics or instructor permission.

FNR 4623C Integrated Natural Resource Management 3 Credits

Grading Scheme: Letter Grade

Integrative approach to the study of forest resource management for the production of multiple products, such as timber, recreation, wildlife, rangeland, utilizing the case study approach.

Prerequisite: FOR 3162C

FNR 4624C Field Operations for Management of Ecosystems 3 Credits

Grading Scheme: Letter Grade

Covers the common operations utilized by natural resource managers to manipulate ecosystems to reach a goal (commodity production, ecological enhancement, aesthetics, recreational opportunities, etc.). Addresses the use of heavy machinery, herbicides and prescribed fire; and the regulations, contracting markets and safety concerns governing each.

Prerequisite: FOR 3153C and FNR 3410C or WIS 4954C or FOR 3162C.

FNR 4660 Natural Resource Policy and Economics 3 Credits

Grading Scheme: Letter Grade

Factors in evolution of forest, range, and wildlife natural resources administration and policies in the United States; policy components; policy formation implementation, change processes; and economic criteria for evaluating the effectiveness of policies.

Prerequisite: Junior standing or higher.

FNR 4950L Natural Resource Conservation Capstone 3 Credits

Grading Scheme: S/U

Provides students in the Natural Resource Conservation (NRC) major with an opportunity to plan and carry out a capstone experience which integrates the knowledge and expertise that they have gained through their undergraduate curriculum.

Prerequisite: Senior Standing and Natural Resource Conservation Major.

FOR 2662 Forests for the Future 3 Credits

Grading Scheme: Letter Grade

Examines current environmental issues that impact individual, community and institutional decisions about North American forest resources. Each issue is reviewed with a framework that uses human behavior, policy options and media messages. Students are expected to understand the issues and to discuss and analyze the major social and ecological variables affecting each issue. (S) (WR)

Attributes: General Education - Social Science, Satisfies 6000 Words of Writing Requirement

FOR 3004 Forests, Conservation and People 3 Credits

Grading Scheme: Letter Grade

A general background course for non-FRC students interested in management, use and conservation of forest resources. Topics include resource description, historical perspectives, current issues, forest biology and management principles. (B)

Attributes: General Education - Biological Science

FOR 3153C Forest Ecology 3 Credits

Grading Scheme: Letter Grade

Ecological principles and their application to the management of forests; major sections include tree population, forest community dynamics and ecosystem processes. (B)

Attributes: General Education - Biological Science

FOR 3162C Silviculture 4 Credits**Grading Scheme:** Letter Grade

Principles governing establishment, treatment and control of forest stands; natural and artificial regeneration systems; intermediate cuttings and cultural operations.

Prerequisite: FOR 3153C.**FOR 3173 Florida's Forest Communities 2 Credits****Grading Scheme:** Letter Grade

Learn to recognize Florida forest communities and the dominant trees and common plants that grow in them. Using the principles of plant taxonomy and tree identification skills, identify common Florida forest trees by using visual physical plant characteristics coupled with habitat cues and tree species groupings. Finally, learn to apply these classifications to describe the conditions that underlie forest community distributions in Florida.

Prerequisite: Junior or senior standing.**FOR 3200C Foundations of Natural Resources and Conservation 1 Credit****Grading Scheme:** Letter Grade

Overview of current and historical views of forest conservation, utilization and policy; principles of forest biology, ecology, Silviculture and management relevant to future courses and careers; basic field research, communications and computer skills.

Prerequisite: 3FY or instructor permission.**FOR 3202 Society and Natural Resources 3 Credits****Grading Scheme:** Letter Grade

Local-to-global and individual-to-institutional perspectives on natural resource values, sustainability, diversity, and social change with consideration of potential paths for working with complex human and natural resource systems. (S)

Attributes: General Education - Social Science**FOR 3214 Fire Ecology and Management 2 Credits****Grading Scheme:** Letter Grade

Detailed study of the role, occurrence and function of wildland fires in natural ecosystems and the use of prescribed burning to simulate those functions. Key topics include factors that influence natural fires, effects of fires on the environment, management and control of wildfires, and the use of prescribed burning. Students will plan and conduct several prescribed burns.

Prerequisite: FOR 3153C or PCB 3034C or PCB 4043C, or the equivalent.**FOR 3214L Fire Ecology and Management Laboratory 1 Credit****Grading Scheme:** Letter Grade

Laboratory to assess, design and participate in the application of prescribed fire in forest ecosystem research and management.

Corequisite: FOR 3214 encouraged strongly.**FOR 3342C Tree Biology 3 Credits****Grading Scheme:** Letter Grade

Studies tree structure and function with relationships to forest environments and forestry practices.

Prerequisite: BOT 2010C or BSC 2011.**FOR 3430C Forest Mensuration 3 Credits****Grading Scheme:** Letter Grade

Forest resource measurements, log and tree content estimation, forest inventory techniques, and stand growth and yield.

Prerequisite: FNR 3410C or the equivalent.**FOR 3434C Forest Resources Information Systems 3 Credits****Grading Scheme:** Letter Grade

Introduces the concepts, principles and applications of geographic information systems, remote sensing and global positioning systems that emphasize applications in forest resource management.

FOR 4060 Global Forests 3 Credits**Grading Scheme:** Letter Grade

Overview of important international issues and developments related to forest resource use and tree management systems in a wide variety of contexts.

Prerequisite: 4FY or higher.**FOR 4090C Urban Forestry 3 Credits****Grading Scheme:** Letter Grade

Introduces the nature, scope, and components of the urban forest, including biology, culture, protection, and aspects of management, planning, and policy.

Prerequisite: FNR 3131C or equivalent and FOR 3153C or equivalent.**FOR 4110 Ecology and Restoration of Longleaf Pine Ecosystems 3 Credits****Grading Scheme:** Letter Grade

History, structure, importance, ecology, restoration and management techniques, ownership patterns and policy implications.

Prerequisite: FOR 3153C or PCB 3034C or PCB 4043C, or the equivalent.

FOR 4621 Forest Economics and Management 3 Credits

Grading Scheme: Letter Grade

Principles of forest management for timber, non-timber and timberland valuation: decision analysis, management plans, forest regulation and harvest scheduling.

Prerequisite: FOR 3162C and ECO 2023, or the equivalents.

FOR 4624C Forest Health Management 3 Credits

Grading Scheme: Letter Grade

Integrated, tree- and forest-oriented study of forest health emphasizing the ecological and economic roles of the biotic agents and abiotic factors that incite dysfunction and the biological and ecological basis for the maintenance of forest health through integrated management of these agents and the forest.

Prerequisite: 4 FY or higher.

FOR 4664 Sustainable Ecotourism Development 3 Credits

Grading Scheme: Letter Grade

Interdisciplinary and applicable study of the tools and techniques managers and planners use to provide sustainable ecotourism opportunities in Florida and worldwide. Topics include integrating ecotourism with other resource uses, landscape level ecotourism planning, sustainable community development, minimizing and monitoring ecotourism impacts, and creating a diversity of ecotourism opportunities.

FOR 4900 Supervised Extension Experience in Forest Resources and Conservation 0-3 Credits

Grading Scheme: S/U

Firsthand, authentic extension experiences in agricultural and life sciences under the supervision of a faculty member. Projects may involve program planning, development, implementation, and evaluation.

FOR 4905 Individual Study in Natural Resources 1-4 Credits

Grading Scheme: Letter Grade

Individual study of a selected topic related to forest resources and conservation as contracted with the instructor at the start of the term.

FOR 4911 Supervised Research in Forest Resources and Conservation 0-3 Credits

Grading Scheme: S/U

Firsthand, authentic research in forest resources and conservation under the supervision of a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application.

FOR 4915 Honors Thesis Research 0-3 Credits

Grading Scheme: S/U

FOR 4934 Topics in Natural Resources 1-4 Credits

Grading Scheme: Letter Grade

Topics in forestry, wood science, range, recreation, wildlife and fisheries. Topics include special issues and in-depth study of topics not in other courses.

FOR 4941 Internship in Natural Resources 1-4 Credits

Grading Scheme: S/U

Supervision by a faculty member and a post-internship report are required.

Prerequisite: undergraduate coordinator permission.

SUR 4345 Marine Geomatics 3 Credits

Grading Scheme: Letter Grade

Six-week course on the technologies, concepts, and methods required to acquire, analyze, and manage geographic data used in seafloor mapping and imaging. Provides background on the capabilities and limitations of different data collection systems, as well as for the other types of sensors necessary to collect accurate information. Topics include marine positioning, underwater acoustics, sonars, hydrographic standards, multibeam echosounder systems, and hydrographic survey design.

Prerequisite: Junior or senior standing.
