

## Appendix A – Descriptions of Courses Relevant to the Forest Science Major

All course descriptions and information regarding the last time a course was offered can be found online on the Course Guide (<http://public.my.wisc.edu/>).

Department	#	Title
Agricultural and Applied Economics	215	Introduction to Agricultural and Applied Economics <i>Course Description:</i> Introduction to economic ways of thinking about a wide range of problems and issues. Topics include consumption, production, prices, markets, finance, trade, pollution, growth, farms, taxes, and development.
	343	Environmental Economics
	344	The Environment and the Global Economy ( <i>Starting Spring 2014 course number will be 244</i> )
	419	Agricultural Finance
	531	Natural Resource Economics
Atmospheric and Oceanic Sciences	100	Weather and Climate
	171	Global Change: Atmospheric Issues and Problems
	332	The Global Warming Debate
	472	Scientific Background to Global Environmental Problems
	535	Atmospheric Dispersion and Air Pollution
Biology Core Curriculum	301	Evolution, Ecology, and Genetics ( <i>Starting Spring 2014 course number will be 381</i> )
	302	Evolution, Ecology, and Genetics Laboratory ( <i>Starting Spring 2014 course number will be 382</i> )
	303	Cellular Biology ( <i>Starting Spring 2014 course number will be 383</i> )
	304	Cellular Biology Laboratory ( <i>Starting Spring 2014 course number will be 384</i> )
Botany	130	General Botany <i>Course Description:</i> Introduction to the basic principles and concepts of the biology of plants. an integrative approach stressing evolutionary sequences and the relationship between structure and function at succeeding levels of organization: molecule, cell, organism, population, community. Correlated lectures, laboratories, and discussions.
	332	Fungi
	360	Bryophytes
	401	Vascular Flora of Wisconsin
	422	Plant Geography
	455	The Vegetation of Wisconsin
	460	General Ecology
	Chemistry	103
108		Chemistry in Our World
109		Advanced General Chemistry
Communication Arts	100	Introduction to Speech Composition
Community and Environmental Sociology	248	Environment, Natural Resources, and Society
	266	People and Places: The Demography of Rural America
Economics	101	Principles of Microeconomics
English	100	Introduction to College Composition
Entomology	302	Introduction to Entomology
	342	Insect Ecology ( <i>Changing course number to Entom 450/451 after 2013</i> )
	473	Plant-Insect Interactions
	541	Biological Control of Insects
Environmental Studies	307	Literature of the Environment: Speaking for Nature
	353	History of Ecology
	361	Wetlands Ecology

	<i>Course Description:</i> Types, origins, settings, and structure of wetlands. Physical, biological, and cultural values, uses and assessments. Physical and biological characteristics and dynamics. Protection, management and restoration. Field trips, literature review, term paper, and personal observations required.
367	Renewable Energy Systems
368	Environmental Law, Toxic Substances, and Conservation
400	Fieldcraft & Field Methods for Environ Researchers
411	Energy Resources
441	Environmental Ethics
449	Government and Natural Resources
460	American Environmental History
556	Remote Sensing Digital Image Processing
575	Assessment of Environmental Impact
671	Energy Economics
695	Applications of Geographic Information Systems in Natural Resources
Forest and Wildlife Ecology	100 Introduction to Forestry
	<i>Course Description:</i> Relationship of humans to forest resources. Roles of the forester in manipulating the forest environment to produce goods and services desired by contemporary society. Current issues in forest resource management and policy, with emphasis on the relation to environmental quality and natural resources.
300	Forest Biometry
	<i>Course Description:</i> Basic concepts of statistical inference and sampling theory as applied to forestry. Estimation of tree and forest characteristics. Use of aerial photographs; principles of data processing; information gathering and decision making under uncertainty.
306	Terrestrial Vertebrates: Life History and Ecology
309	Diseases of Trees and Shrubs
	<i>Course Description:</i> Fundamental disease concepts, pathogens and causal agents, diagnosis, and biologically rational principles and practices for management of diseases of trees and shrubs. For degree students and professionals. One extended lecture with discussion and one lab or field trip per week.
318	Principles of Wildlife Ecology
360	Extinction of Species
	<i>Course Description:</i> A comprehensive treatment of the ecology, causes, and consequences of species extinction. Ecology and problems of individual species, habitat alteration and degradation, socio-economic pressures and conservation techniques and strategies.
371	Introduction to Environmental Remote Sensing ( <i>previously taught as F&amp;W ECOL 301 or 375</i> )
	<i>Course Description:</i> Introduction to the Earth as viewed from above, focusing on use of aerial photography and satellite imagery to study the environment. Includes physical processes of electromagnetic radiation, data types and sensing capabilities, methods for interpretation, analysis and mapping, and applications.
372	Intermediate Environmental Remote Sensing
375	Tree Stability Analysis Testing Tools & Techniques
375	Wildlife-Habitat Relationships
375	Climate Change and Natural Resources
379	Principles of Wildlife Management
399	Coordinative Internship/Cooperative Education
402	Dendrology
	<i>Course Description:</i> Identification, ranges, uses, and some ecological characteristics of evergreen and deciduous woody plants, both native and cultivated; lab and field work.
404	Wildlife Damage Management
410	Principles of Silviculture
	<i>Course Description:</i> Ecologically-based forest management principles for sustainable timber production, maintenance or restoration of biological diversity, and maintenance of aesthetic quality and site productivity. Includes coverage of even-aged and uneven-aged management, reforestation principles, and ecological restoration techniques.
415	Tree Physiology
	<i>Course Description:</i> Physiological basis of development of forest trees and stands, factors affecting tree growth.
450	Communities and Forests

	452	World Forest History	<i>Course Description:</i> Examines world forest history, with attention to links between societal change and forest change. Examines how different peoples have used or abused the forest, how societies have struggled to establish policies governing forests, and how perceptions of forests have evolved.
	500	Insects in Forest Ecosystem Function and Management	<i>Course Description:</i> Roles of insects in the functioning of healthy forest ecosystems, tactics for addressing challenges they pose to sustainable natural resource management, and emerging issues such as biological invasions, habitat alteration, and climate change that influence interactions among insects, their microbial associates, forests, and humans.
	501	Forest Fire Behavior and Management	<i>Course Description:</i> Principles and applications of forest fire behavior, prediction, control and use; current policy issues in fire management.
	515	Renewable Resources Policy	<i>Course Description:</i> Historical and philosophical basis for and principal laws relating to forest, wildlife and related resources; roles of science and values in natural resources policy making; the policy process; the main federal and state renewable resource management agencies; ethics and professionalism.
	550	Forest Ecology	<i>Course Description:</i> Integrative study of processes in terrestrial ecosystem which affect emergent properties of energy and water flow and nutrient cycling. Special attention given to interactions between plants and soils. Implications for impacts of management and pollution loading discussed throughout.
	561	Wildlife Management Techniques	
	565	Principles of Landscape Ecology	<i>Course Description:</i> Landscape ecology emphasizes the importance of spatial patterns at broad scales. Concepts and applications are emphasized, especially for seniors and graduate students in applied natural resource fields. The course is also a prerequisite for Zoology/Forest Ecology 665, Advanced Landscape Ecology. Lecture format with discussion.
	590	Integrated Resource Management	<i>Course Description:</i> Resource management planning in state and federal land management agencies. Students apply principles by working in teams to develop a management plan for a real property by inventorying resources; developing management objectives and alternatives; and analyzing their ecological, social and institutional implications.
	635	Forest Stand Dynamics	
	651	Conservation Biology	<i>Course Description:</i> Application of ecological principles and human dimensions to the conservation of biological diversity. Topics: biodiversity science; conservation planning; population ecology; habitat loss, species exploitation, invasive species, pollution; human attitudes and activities as they affect the biosphere; approaches to monitoring interventions.
	652	Decision Methods for Natural Resource Managers	<i>Course Description:</i> Applications of quantitative methods, including optimization and simulation, to the management of natural resources, especially forests.
	655	Animal Population Dynamics	
	658	Forest Resources Practicum	<i>Course Description:</i> Field training and experience; exposure to forestry operations, equipment, procedures, and management problems.
General Business	310	Fundamentals of Accounting and Finance for Non-Business Majors	
General Business	311	Fundamentals of Management and Marketing for Non-Business Majors	
Geography	329	Landforms and Landscapes of North America	
Geography	338	Environmental Biogeography	
Geography	339	Environmental Conservation	<i>Course Description:</i> Examines major environmental conservation approaches in the U.S. and developing countries and how they are influenced by sociopolitical factors, cultural values and scientific understandings of nature. Historical and contemporary cases are explored with emphasis on biodiversity and climate change issues.
Geography	342	Geography of Wisconsin	
Geography	370	Introduction to Cartography	
Geography	377	An Introduction to Geographic Information Systems	

		<i>Course Description:</i> Design, implementation and use of automated procedures for storage, analysis and display of spatial information. Covers data bases, information manipulation and display techniques, software systems and management issues. Case studies. Meets with Civil & Environmental Engineering 357.
	378	Introduction to Geocomputing
Horticulture	263	Landscape Plants I
	326	Plant Nutrition Management
	375	Arboriculture
Interdisciplinary Courses - CALS	155	Issues in Agriculture, Environment, and Life Sciences
	165	Introduction to International Issues in Agricultural & Life Sciences
International Business	200	International Business
Landscape Architecture	666	Restoration Ecology
Life Sciences Communication	100	Introduction to Communication: Inquiry and Exposition
	270	Communication in Life Sciences Industries
Management and Human Resources	300	Organizational Behavior
	305	Human Resource Management
	401	The Management of Teams
Mathematics	112	Algebra
	113	Trigonometry
	114	Algebra and Trigonometry
Microbiology	303	Biology of Microorganisms
	304	Biology of Microorganisms Laboratory
Operations and Technology Management	300	Operations Management
Plant Pathology	300	Introduction to Plant Pathology
Soil Science	301	General Soil Science
		<i>Course Description:</i> Physical chemical and biological properties of soils as they affect soil-plant-water relations, soil classification and suitability for agricultural and other uses.
	321	Soils and Environmental Chemistry
	323	Soil Biology
	325	Pedology
	451	Environmental Biogeochemistry
Statistics	224	Introductory Statistics for Engineers
	301	Introduction to Statistical Methods
		<i>Course Description:</i> Distributions, measures of central tendency, dispersion and shape, the normal distribution; experiments to compare means, standard errors, confidence intervals; effects of departure from assumption; method of least squares, regression, correlation, assumptions and limitations; basic ideas of experimental design.
	371	Introductory Applied Statistics for the Life Sciences
		<i>Course Description:</i> The course will provide students in the life sciences with an introduction to modern statistical practice. Topics include: exploratory data analysis, probability and random variables; one-sample testing and confidence intervals, role of assumptions, sample size determination, two-sample inference; basic ideas in experimental design, analysis of variance, linear regression, goodness-of fit; biological applications.
Zoology	101	Animal Biology
	102	Animal Biology Laboratory
	151	Introductory Biology
	152	Introductory Biology
	315	Limnology-Conservation of Aquatic Resources
	316	Laboratory for Limnology-Conservation of Aquatic Resources
	410	Evolutionary Biology
	510	Ecology of Fishes

	511	Ecology of Fishes Lab
	520	Ornithology
	521	Birds of Southern Wisconsin
	548	Ecology of Rivers and Streams