F&W ECOL 1 — COOPERATIVE EDUCATION/CO-OP IN FOREST & WILDLIFE ECOLOGY
1 credit.

Full-time off-campus work experience which combines classroom theory with practical knowledge of operations to provide students with a background upon which to base a professional career. Students receive credit only for the term in which they are actively enrolled and working. The same work experience may not count towards credit in F&W ECOL 399. Enroll Info: None

Requisites: Consent of instructor
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2018

F&W ECOL/ENVIR ST 100 — FORESTS OF THE WORLD
3 credits.

Ecology and conservation of a wide range of forests, from tropical rain and dry forests, boreal forests, to temperate forests, outside of the USA. The main threats to forests, and different strategies to solve conservation and sustainable management issues in international forestry. Trade-offs in forest conservation and management, resulting from different values that people place on forests, issues in equity and equality in access to forest resources. The role of forests in climate change and extinction of species. Enroll Info: None

Requisites: None

Course Designation: Breadth - Biological Science or Social Science Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL 101 — ORIENTATION TO WILDLIFE ECOLOGY
1 credit.

Introduction to Wildlife Ecology and the profession of wildlife management/conservation. Emphasis on preparing for a successful career. Enroll Info: None

Requisites: Declared in Wildlife Ecology
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL 110 — LIVING WITH WILDLIFE - ANIMALS, HABITATS, AND HUMAN INTERACTIONS
3 credits.


Requisites: None

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL/C&E SOC/SOC 248 — ENVIRONMENT, NATURAL RESOURCES, AND SOCIETY
3 credits.

Introduces the concerns and principles of sociology through examination of human interaction with the natural environment. Places environmental issues such as resource depletion, population growth, food production, environmental regulation, and sustainability in national and global perspectives. Enroll Info: None

Requisites: None

Course Designation: Breadth - Social Science Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL/BOTANY 250 — FORESTS AND HUMANS: FROM THE MIDWEST TO MADAGASCAR
2 credits.

Provides an overview of the geography, ecology, and economic importance of the world’s forest biomes. Learn how climate influences vegetation and, in-turn, how forests impact global climate. Meet scientists working to understand the astounding biodiversity and ecological complexity of forest ecosystems, and how these ecosystems support human life. Discuss the threats to forest ecosystems around the world, and hear from the people trying to protect them. Emphasizes the forest resources and services upon which humans depend, and how we can maintain these resources into the future. Analyze the idea of “sustainability” when it comes to forest management, hear alternative viewpoints about what this word means, and discuss potential trade-offs and conflicts. Look at the many real-world programs in place at the global, national, and local level to sustainably manage forests. Enroll Info: None

Requisites: None

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Summer 2020
F&W ECOL 289 — HONORS INDEPENDENT STUDY
1-2 credits.
Research work for Honors students under direct guidance of a faculty member in an area of Forest and Wildlife Ecology. Students are responsible for arranging the work and credits with the supervising instructor. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2001

F&W ECOL 299 — INDEPENDENT STUDY
1-3 credits.
Research work for students under direct guidance of a faculty member in an area of Forest and Wildlife Ecology. Students are responsible for arranging the work and credits with the supervising instructor. Enroll Info: None
Requisites: Consent of instructor
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2021

F&W ECOL 300 — FOREST BIOMETRY
4 credits.
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. Enroll Info: None
Requisites: STAT 301, 371, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL 305 — FOREST OPERATIONS
2 credits.
Introduction to forestry operations in the implementation of forest plans, including site preparation, stand establishment, and harvesting systems. Analysis of costs and productivity, including system balance, marketing, timber procurement, and contractual services. Enroll Info: None
Requisites: F&W ECOL 300 or 410
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL 306 — TERRESTRIAL VERTEBRATES: LIFE HISTORY AND ECOLOGY
4 credits.
Life history, ecology, distribution, and taxonomy of reptiles, amphibians, birds, and mammals. Birds will receive less emphasis. Primary focus is on Wisconsin species, including conservation threats, but covers all major North American families, and surveys major groups of the world. Designed as a foundation for detailed study of vertebrates or to satisfy the need for a scientific introduction to Wisconsin vertebrates. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY/BOTANY 151, (ZOOLOGY/BIOLOGY 101 and 102), (BIOCORE 381 and 382), or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL/HORT/LAND ARC/PL PATH 309 — DISEASES OF TREES AND SHRUBS
3 credits.
Fundamental disease concepts, pathogens and causal agents, diagnosis, and biologically rational principles and practices for management of diseases of trees and shrubs. Enroll Info: Includes field trips
Requisites: (ZOOLOGY/BIOLOGY/BOTANY 152, BOTANY/BIOLOGY 130, or BIOCORE 381) or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2018

F&W ECOL 318 — PRINCIPLES OF WILDLIFE ECOLOGY
3 credits.
Major environmental factors affecting wildlife; structure and behavior of wildlife populations; regional wildlife communities and their conservation. Enroll Info: None
Requisites: Declared in Wildlife Ecology
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2021
F&W ECOL/ZOOLOGY 335 — HUMAN/ANIMAL RELATIONSHIPS: BIOLOGICAL AND PHILOSOPHICAL ISSUES
3 credits.

An interdisciplinary approach to our complex and often contradictory relationships with non-human animals, including information about the nature, needs and behavior of human and non-human animals in relation to our personal and professional interactions with them. Enroll Info: None

Requisites: Sophomore standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL/ENVIR ST/ZOOLOGY 360 — EXTINCTION OF SPECIES
3 credits.

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. Enroll Info: None

Requisites: Sophomore standing and ZOOLOGY/BIOLOGY/BOTANY 151, (ZOOLOGY/BIOLOGY 101 and 102), BIOLOGY/BOTANY 130, or (BIOCORE 381 and 382)
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL/ENVIR ST/G L E/GEOG/GEOSCI/LAND ARC 371 — INTRODUCTION TO ENVIRONMENTAL REMOTE SENSING
3 credits.

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. Enroll Info: None

Requisites: (Sophomore standing and MATH 113, 114, or 171), graduate/professional standing, or member of Engineering Guest Students
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

F&W ECOL/ENVIR ST/G L E/GEOG/GEOSCI/LAND ARC 372 — INTERMEDIATE ENVIRONMENTAL REMOTE SENSING
3 credits.

Examines intermediate-level concepts in information extraction, data processing and radiative transfer relevant to remote sensing of the environment. Includes transforms, image correction, classification algorithms and change detection, with emphasis on applications for land use planning and natural resource management. Enroll Info: None

Requisites: LAND ARC/ENVIR ST/F&W ECOL/G L E/GEOG/GEOSCI 371, graduate/professional standing, or member of Engineering Guest Students
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2015

F&W ECOL 375 — SPECIAL TOPICS
1-4 credits.

Specialized subject matter of current interest to undergraduate students. Enroll Info: None

Requisites: None
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2022

F&W ECOL 379 — PRINCIPLES OF WILDLIFE MANAGEMENT
3 credits.

Ways of conserving desired numbers of animals for the overall best interests of society, be they aesthetic, ecological, economic, commercial or recreational; includes management of endangered species, exploited species, wildlife communities in nature reserves, and wildlife pests. Enroll Info: None

Requisites: F&W ECOL 318 or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL 390 — LEARNING TO ACTION: PROFESSIONAL DEVELOPMENT
1 credit.

Preparation for natural resources professions and the job market after graduation. Development of professional skills including communication, ethical decision-making, and conflict resolution. Experience in job searching, editing resumes, and interviewing for jobs. Enroll Info: None

Requisites: Declared in Forest Science
Repeatable for Credit: No
Last Taught: Fall 2021
F&W ECOL 399 — COORDINATIVE INTERNSHIP/COOPERATIVE EDUCATION
1-8 credits.

An internship under guidance of a faculty or instructional academic staff member in Forest and Wildlife Ecology and an internship site supervisor. Students are responsible for arranging the work and credits with the faculty or instructional academic staff member and the internship site supervisor. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Workplace - Workplace Experience Course
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2021

F&W ECOL 400 — STUDY ABROAD IN FOREST AND WILDLIFE ECOLOGY
1-6 credits.

Provides an area equivalency for courses taken on Madison Study Abroad Programs that do not equate to existing UW courses. Enroll Info: Current enrollment in a UW-Madison study abroad program
Requisites: None
Repeatable for Credit: Yes, unlimited number of completions

F&W ECOL 401 — PHYSIOLOGICAL ANIMAL ECOLOGY
3 credits.

Physiological adaptation and function in wild animals, primarily birds, mammals, reptiles, amphibians. Focus on interactions between animals and their environment, and relationships between animal physiology and the ecology and dynamics of populations. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY/BOTANY 151, (ZOOLOGY/BIOLOGY 101 and 102), (BIOCORE 381 and 382), or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL/BOTANY 402 — DENDROLOGY
2 credits.

Identification, ranges, uses, and some ecological characteristics of evergreen and deciduous woody plants, both native and cultivated; lab and field work. Enroll Info: A 5 cr intro college crse in bot or equiv
Requisites: Sophomore standing; not open to special students
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL 404 — WILDLIFE DAMAGE MANAGEMENT
3 credits.

Theory and application of wildlife management from a species-specific and situational perspective. Introduction to career options in wildlife damage management. Enroll Info: None
Requisites: F&W ECOL 379
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

F&W ECOL 410 — PRINCIPLES OF SILVICULTURE
3 credits.

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. Enroll Info: None
Requisites: ZOOLOGY/BOTANY/F&W ECOL 460, F&W ECOL 550, declared in Forest Science or Wildlife Ecology, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL 411 — PRACTICES OF SILVICULTURE
1 credit.

Utilization of ecologically-based forest management practices 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. Enroll Info: None
Requisites: F&W ECOL 410 or concurrent enrollment
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL 415 — TREE PHYSIOLOGY
3 credits.

Physiological basis of development of forest trees and stands, factors affecting tree growth. Enroll Info: None
Requisites: BOTANY/BIOLOGY 130, ZOOLOGY/BIOLOGY/BOTANY 152, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020
F&W ECOL 424 — WILDLIFE ECOLOGY SUMMER FIELD PRACTICUM
2 credits.
Practicum emphasizing research and habitat management techniques through individual and group field work, tours, demonstrations and lectures. Enroll Info: None
Requisites: Consent of Instructor
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2019

F&W ECOL/SOIL SCI 451 — ENVIRONMENTAL BIOGEOCHEMISTRY
3 credits.
Emphasis is given to a consideration of the processes influencing the distribution and cycling of chemical elements in native and anthropogenic ecosystem-level cycles of elements, and biogeochemical cycling in major soil-biome systems. Enroll Info: None
Requisites: CHEM 104, 109, or 116, or graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2013

F&W ECOL/BOTANY 455 — THE VEGETATION OF WISCONSIN
4 credits.
Ecology of Wisconsin plant communities: floristic composition, community structure, relationship to history, climate, soil, and geology; response to human perturbation. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY/BOTANY 151, BOTANY/BIOLOGY 130, ZOOLOGY/BIOLOGY 101, BIOCORE 381, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL/BOTANY/ZOOLOGY 460 — GENERAL ECOLOGY
4 credits.
Ecology of individual organisms, populations, communities, ecosystems, landscapes, and the biosphere. The interaction of organisms with each other and their physical environment. These relationships are studied, often in quantitative terms, in both field and laboratory settings. Enroll Info: None
Requisites: Satisfied Quantitative Reasoning (QR) A requirement and ZOOLOGY/BIOLOGY/BOTANY 152, (ZOOLOGY/BIOLOGY 101 and 102), BIOCORE 381, or BOTANY/BIOLOGY 130, or graduate/professional standing
Course Designation: Gen Ed - Quantitative Reasoning Part B
Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL/ENTOM 500 — INSECTS IN FOREST ECOSYSTEM FUNCTION AND MANAGEMENT
2 credits.
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. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY 101, ZOOLOGY/BIOLOGY/BOTANY 152, BIOCORE 381, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2015

F&W ECOL 501 — FOREST FIRE BEHAVIOR AND MANAGEMENT
1 credit.
Principles and applications of forest fire behavior, prediction, control and use; current policy issues in fire management. Enroll Info: None
Requisites: ENVIR ST/F&W ECOL 100
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2017

F&W ECOL/ENVIR ST 515 — NATURAL RESOURCES POLICY
3 credits.
Examine natural resources policy and law in the United States relating to forests, wildlife, and other natural resources. Investigates the policy-making process and the role of science, values, property, economics, and justice in the development of federal and state resources policy. Practice professional written and oral communication and ethical engagement in resources policy and administration. Enroll Info: None
Requisites: Satisfied Communications A requirement or graduate/professional standing
Course Designation: Gen Ed - Communication Part B
Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2021
F&W ECOL/AN SCI/ZOOLOGY 520 — ORNITHOLOGY
3 credits.

Introduction to bird biology, ecology, and behavior. Topics include the evolutionary origin of birds and flight, anatomy and physiology, functional morphology, migration, communication, reproductive strategies, ecological adaptations and roles, and biogeographical patterns. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY 101 and 102, ZOOLOGY/BIOLOGY/BOTANY 152, (BIOCORE 381 and 382), or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeateable for Credit: No
Last Taught: Spring 2022

F&W ECOL/AN SCI/ZOOLOGY 521 — BIRDS OF SOUTHERN WISCONSIN
3 credits.

Outdoor and indoor labs/lectures emphasizing identification of southern Wisconsin birds by sight and vocalization. Two required Saturday field trips in Southern Wisconsin. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY 101 and 102, ZOOLOGY/BIOLOGY/BOTANY 152, (BIOCORE 381 and 382), or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeateable for Credit: No
Last Taught: Spring 2022

F&W ECOL/HORT/SOIL SCI 524 — URBAN SOIL AND ENVIRONMENT
3 credits.

Many environmental issues related to urbanization are derived from the manipulation of soil. By coupling contemporary literature in urban soils with soil science, students will be able to evaluate environmental issues within the urban environment and provide new ways of remediating their impact. Enroll Info: None
Requisites: (PHYSICS 103, 201, 207, or 247) and (SOIL SCI/ENVIR ST/GEOG 230 or SOIL SCI 301 or concurrent), or graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeateable for Credit: No
Last Taught: Fall 2017

F&W ECOL/A A/ECON 531 — NATURAL RESOURCE ECONOMICS
3 credits.

Economic concepts and tools relating to management and use of natural resources, including pricing principles, cost-benefit analysis, equity, externalities, economic rent, renewable and nonrenewable resources, and resource policy issues. Enroll Info: None
Requisites: ECON 301 or 311 or graduate/professional standing
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeateable for Credit: No
Last Taught: Spring 2022

F&W ECOL/SURG SCI 548 — DISEASES OF WILDLIFE
3 credits.

Provides an overview of the issues involved across a wide range of wildlife diseases, presented within the context of ecosystem health or "one health". Content will be on the biological, epidemiological, clinical, public health and, in some cases, sociopolitical ramifications of wildlife diseases. Covers a wide variety of wildlife diseases caused by bacteria, viruses, parasites, prions, and environmental contaminants. Consequences associated with environmental changes on the manifestation of wildlife diseases will also be discussed. This range of diseases will be presented in order to familiarize the many facets involved in disease management, from animal and human health issues, to ecological and environmental considerations, to the role of society in contributing to, and managing, these diseases. Enroll Info: None
Requisites: BOTANY/BIOLOGY 130, (ZOOLOGY/BIOLOGY 101 102), BIOLOGY/BOTANY/ZOOLOGY 151, BIOCORE 381, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeateable for Credit: No
Last Taught: Fall 2021

F&W ECOL 550 — FOREST ECOSYSTEMS
3 credits.

Introduction to major abiotic and biotic factors that influence forest ecosystem composition, structure, and function. Reviews important processes that influence structure and function of forest ecosystems. Uses basic ecosystem concepts to elucidate influence of anthropogenic (including forest management) and natural disturbances on forest ecosystem structure and function. Enroll Info: None
Requisites: BOTANY/BIOLOGY 130, ZOOLOGY/BIOLOGY/BOTANY 152, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeateable for Credit: No
Last Taught: Fall 2021
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
<th>Enroll Info</th>
<th>Requisites</th>
<th>Course Designation</th>
<th>Last Taught</th>
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<tbody>
<tr>
<td>F&amp;W ECOL 551</td>
<td>F&amp;W ECOL 551 — FOREST ECOLOGY LAB</td>
<td>1</td>
<td>Review concepts presented in F&amp;W ECOL 550 by exposing the key concepts and processes discussed that can best be seen in the field or illustrated with the use of ecosystem models. Enroll Info: None.</td>
<td></td>
<td>Requisites: F&amp;W ECOL 550 or concurrent enrollment, or graduate/professional standing</td>
<td>Breadth - Biological Sci. Counts toward the Natural Sci req</td>
<td>Fall 2021</td>
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<tr>
<td>F&amp;W ECOL 561</td>
<td>F&amp;W ECOL 561 — WILDLIFE MANAGEMENT TECHNIQUES</td>
<td>3</td>
<td>Preparation of collections, analyses of food habits, sex and age determinations, censuses, trapping and banding, planting food and cover, research techniques. Enroll Info: None.</td>
<td></td>
<td>Requisites: None</td>
<td>Breadth - Biological Sci. Counts toward the Natural Sci req</td>
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<tr>
<td>F&amp;W ECOL/LAND ARC/ZOOLOGY 565</td>
<td>F&amp;W ECOL/LAND ARC/ZOOLOGY 565 — PRINCIPLES OF LANDSCAPE ECOLOGY</td>
<td>2</td>
<td>Emphasizes the importance of spatial patterns at broad scales. Concepts and applications are covered. Enroll Info: None.</td>
<td></td>
<td>Requisites: (ZOOLOGY/BOTANY/F&amp;W ECOL 460 or F&amp;W ECOL 550) and (STAT 301, 371, or HOR/T/F&amp;W ECOL/STAT 571), or graduate/professional standing</td>
<td>Breadth - Biological Sci. Counts toward the Natural Sci req</td>
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<tr>
<td>F&amp;W ECOL/HORT/STAT 571</td>
<td>F&amp;W ECOL/HORT/STAT 571 — STATISTICAL METHODS FOR BIOSCIENCE I</td>
<td>4</td>
<td>Descriptive statistics, distributions, one- and two-sample normal inference, power, one-way ANOVA, simple linear regression, categorical data, non-parametric methods; underlying assumptions and diagnostic work. Enroll Info: None.</td>
<td></td>
<td>Requisites: Graduate/professional standing</td>
<td>Level - Intermediate</td>
<td>Fall 2021</td>
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<tr>
<td>F&amp;W ECOL/HORT/STAT 572</td>
<td>F&amp;W ECOL/HORT/STAT 572 — STATISTICAL METHODS FOR BIOSCIENCE II</td>
<td>4</td>
<td>Polynomial regression, multiple regression, two-way ANOVA with and without interaction, split-plot design, subsampling, analysis of covariance, elementary sampling, introduction to bioassay. Enroll Info: None</td>
<td></td>
<td>Requisites: STAT/F&amp;W ECOL/HORT 571</td>
<td>Level - Intermediate</td>
<td>Spring 2022</td>
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<tr>
<td>F&amp;W ECOL 577</td>
<td>F&amp;W ECOL/HORT/STAT 577 — STATISTICAL METHODS FOR BIOSCIENCE III</td>
<td>3</td>
<td>Solve problems that arise in the conservation and management of wildlife populations requires that managers understand and evaluate human cultural, economic, and political issues in addition to ecological issues. Use case studies to understand the interdisciplinary nature of wildlife management while gaining practical hands-on experiences. Enroll Info: None.</td>
<td></td>
<td>Requisites: Declared in Wildlife Ecology and Junior Standing</td>
<td>Level - Advanced</td>
<td></td>
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<tr>
<td>F&amp;W ECOL 590</td>
<td>F&amp;W ECOL 590 — INTEGRATED RESOURCE MANAGEMENT</td>
<td>3</td>
<td>Resource management planning in state and federal land management agencies. 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. Enroll Info: None.</td>
<td></td>
<td>Requisites: Declared in Forest Science, Junior Standing, and F&amp;W ECOL 658</td>
<td>Sustain - Sustainability</td>
<td>Fall 2021</td>
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</tbody>
</table>
F&W ECOL 599 — WILDLIFE RESEARCH CAPSTONE
3 credits.

Synthesize concepts in wildlife ecology and prepare for a wildlife research career. Develop a professional-quality research proposal for an extended project, carry out a pilot ecological field study, and design and implement a social survey questionnaire. Enroll Info: None
Requisites: F&W ECOL 561
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2017

F&W ECOL/ENTOM/PL PATH/SOIL SCI 606 — COLLOQUIUM IN ENVIRONMENTAL TOXICOLOGY
1 credit.

Current topics in molecular and environmental toxicology and problems related to biologically active substances in the environment. Topics vary each semester. Lectures are by resident and visiting professors and other researchers. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY 101 or BOTANY/BIOLOGY 130 or ZOOLOGY/BIOLOGY/BOTANY 151, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2016

F&W ECOL/AGRONOMY/ENTOM/M&ENVTOX 632 — ECOTOXICOLOGY: THE CHEMICAL PLAYERS
1 credit.

Introduction to natural and man-made toxins/toxicants, their distribution, transport, and fate in the environment. Enroll Info: None
Requisites: (CHEM 341 or 343) and ((BOTANY/BIOLOGY 130 and ZOOLOGY/BIOLOGY 102) or ZOOLOGY/BIOLOGY/BOTANY 152 or BIOCORE 383); or graduate/professional standing
Course Designation: Gen Ed - Quantitative Reasoning Part B
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2019

F&W ECOL/AGRONOMY/ENTOM/M&ENVTOX 633 — ECOTOXICOLOGY: IMPACTS ON INDIVIDUALS
1 credit.

Addresses absorption, biotransformation, elimination of toxins in a wide variety of taxa (plants, invertebrates, vertebrates). Enroll Info: None
Requisites: M&ENVTOX/AGRONOMY/ENTOM/F&W ECOL 632
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL/AGRONOMY/ENTOM/M&ENVTOX 634 — ECOTOXICOLOGY: IMPACTS ON POPULATIONS, COMMUNITIES AND ECOSYSTEMS
1 credit.

Focuses on the impact of toxics on populations, communities, ecosystems, and includes risk evaluation. Includes lectures, current research presentations, and discussions. Enroll Info: None
Requisites: M&ENVTOX/AGRONOMY/ENTOM/F&W ECOL 633 or declared in Molecular and Environmental Toxicology, PhD program
Repeatable for Credit: No
Last Taught: Fall 2019

F&W ECOL/BOTANY/ENVIR ST/ZOOLOGY 651 — CONSERVATION BIOLOGY
3 credits.

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. Enroll Info: None
Requisites: Satisfied Quantitative Reasoning (QR) A requirement and ZOOLOGY/BOTANY 450, F&W ECOL/BOTANY 455, ZOOLOGY/BOTANY/F&W ECOL 460, or graduate/professional standing
Course Designation: Gen Ed - Quantitative Reasoning Part B
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2019

F&W ECOL/A A E/ENVIR ST 652 — DECISION METHODS FOR NATURAL RESOURCE MANAGERS
3-4 credits.

Applications of quantitative methods, including optimization and simulation, to the management of natural resources, especially forests. Enroll Info: None
Requisites: A A E 215, ECON 101, or 111
Course Designation: Gen Ed - Quantitative Reasoning Part B
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2019

F&W ECOL 655 — ANIMAL POPULATION DYNAMICS
3 credits.

Fluctuations of animal populations: techniques of study, documentation, controls. Enroll Info: None
Requisites: ZOOLOGY/F&W ECOL/LAND ARC 565 or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2022
F&W ECOL 658 — FOREST RESOURCES PRACTICUM
3 credits.

Field training and experience; exposure to forestry operations, equipment, procedures, and management problems. Enroll Info: None
Requisites: None
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

F&W ECOL/ZOOLOGY 660 — CLIMATE CHANGE ECOLGY
3 credits.

The evidence that the Earth's climate is changing at unprecedented rates is now overwhelming. Environmental tipping points are being crossed and many species are adapting or failing to adapt. Climate change poses a significant problem for conserving and managing wildlife and their habitats. Climate change and its ecological impacts will be discussed and analyzed. Enroll Info: None
Requisites: (Declared in Forest Science or Wildlife Ecology and Junior standing), ZOOLOGY/BOTANY/F&W ECOL 460, or graduate/professional standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level: Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Grad 50%: Counts toward 50% graduate coursework requirement
Sustain: Sustainablity
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL/BOTANY/ZOOLOGY 672 — HISTORICAL ECOLGY
2 credits.

Study the importance of past events for current ecosystems. Emphasizes concepts and applications. Enroll Info: None
Requisites: Senior standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level: Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Grad 50%: Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL 675 — PROFESSIONAL DEVELOPMENT IN FOREST & WILDLIFE ECOLGY
1 credit.

Provides opportunities for additional training in professional development skills relevant to careers in natural resources. Enroll Info: None
Requisites: None
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2022

F&W ECOL 681 — SENIOR HONORS THESIS
2-4 credits.

Individual study for undergraduate students in an Honors program completing a thesis in the area of Forest and Wildlife Ecology, as arranged with a faculty member. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Fall 2016

F&W ECOL 682 — SENIOR HONORS THESIS
2-4 credits.

Second semester of individual study for undergraduate students in an Honors program completing a thesis in the area of Forest and Wildlife Ecology, as arranged with a faculty member. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Spring 2021

F&W ECOL 691 — SENIOR THESIS
2-4 credits.

Independent research for Honors students completing a thesis in the areas of Forest Science or Wildlife Ecology, under the guidance of a faculty member. Enroll Info: None
Requisites: Consent of instructor
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL 692 — SENIOR THESIS
2-4 credits.

Independent research for Honors students completing a thesis in the areas of Forest Science or Wildlife Ecology, under the guidance of a faculty member. Enroll Info: None
Requisites: Consent of instructor
Repeatable for Credit: No
Last Taught: Spring 2021

F&W ECOL 699 — SPECIAL PROBLEMS
1-4 credits.

Individual advanced work in an area of Forest and Wildlife Ecology under the direct guidance of a faculty member. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2021
F&W ECOL/ENTOM 711 — MULTIVARIATE ANALYSIS OF ECOLOGICAL AND COMMUNITY DATA
2 credits.

Examines common methods of multivariate data analysis in ecology and environmental science. Covers methods for the analysis of complex, multidimensional datasets that are collected in the study of plant, invertebrate, fish, and bird communities. Addresses the concurrent analysis of the environmental factors that may drive community distributions. Provides the basis for predictive modeling of distributions across landscapes. General methods covered include ordination (PCA, DCA, NMDS, CCA), clustering (or classification), and other comparative analyses of data matrices (ANOSIM, Mantel tests). Includes an applied, "hands-on" approach on how to use these tools, and the circumstances under which their uses are either appropriate or inappropriate. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2015

F&W ECOL 799 — PRACTICUM IN FORESTRY AND WILDLIFE ECOLOGY/TEACHING
1-3 credits.

Instructional orientation to teaching at the higher education level in the agricultural and life sciences, direct teaching experience under faculty supervision, experience in testing and evaluation of students, and the analysis of teaching performance. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Summer 2021

F&W ECOL 875 — SPECIAL TOPICS
1-4 credits.

Specialized subject matter of current interest to graduate students. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2022

F&W ECOL/BOTANY/ZOOLOGY 879 — ADVANCED LANDSCAPE ECOLOGY
3 credits.

Emphasizes spatial patterning (its development and importance for ecological processes) and often focuses on large regions. Learn concepts, methods, and applications of landscape ecology. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL/AGRONOMY/ATM OCN/BOTANY/ENTOM/ENVIR ST/GEOG/GEOSCI/ZOOLOGY 953 — INTRODUCTION TO ECOLOGY RESEARCH AT UW-MADISON
1-2 credits.

Introduces new graduate students to the diversity of ecologists across the UW-Madison campus. Includes discussions of key topics in professional development, research presentations by faculty members, and discussions of assigned papers with senior graduate students. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2021

F&W ECOL/DS/URB R PL 955 — PRACTICAL RESEARCH DESIGN AND METHODS OF EMPIRICAL INQUIRY
3 credits.

Provides a practical introduction to basic concepts of research question formulation, research designs and alternative methods of inquiry, implications for internal validity of the research and generalizability of the findings, operational definitions and measurement validity, reliability, utility and precision. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2022

F&W ECOL 961 — WILDLIFE SEMINAR
1 credit.

Monthly research reports and special topics. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2016

F&W ECOL/ATM OCN/BOTANY/ENVIR ST/GEOG/GEOSCI/ZOOLOGY 980 — EARTH SYSTEM SCIENCE SEMINAR
1 credit.

Topics in earth system science. Emphasis on the coupling between atmospheric, oceanic and land surface systems, involving physical geochemical and biological processes, and including interactions with human systems. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2016
F&W ECOL 990 — RESEARCH AND THESIS
1-12 credits.

Independent research in preparation of a graduate thesis under supervision of a faculty member. Enroll Info: None

Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2022

F&W ECOL 999 — ADVANCED INDEPENDENT STUDY
1-3 credits.

Independent graduate study under supervision of a faculty member. Enroll Info: None

Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2022