WILDLIFE ECOLOGY AND CONSERVATION

ALS 6500 Multivariate Statistics for Agricultural and Life Sciences 3 Credits
Grading Scheme: Letter Grade
This course provides students with a conceptual and practical understanding of the application of multivariate statistics in the life sciences. Topics covered include ordination, clustering, and discrimination. Prior experience with the programming language R is necessary for this course.
Prerequisite: STA 6093.

ALS 6501 Data Carpentry for Biologists 3 Credits
Grading Scheme: Letter Grade
An introduction to data management, manipulation, and analysis, with an emphasis on biological problems. Class consists of short introductions to new concepts followed by hands on computing exercises using R and SQLite, but the concepts apply to programming languages and databases more generally. No background in computing is required.

WIS 5496 Research Design in Wildlife Ecology 3 Credits
Grading Scheme: Letter Grade
Scientific philosophy and logic of modern ecological approaches, and practical research design as applied to wildlife field ecology. Offered fall term.
Prerequisite: STA 2023 or equivalent; upper-division course in ecology.

WIS 5555C Conservation Biology 3 Credits
Grading Scheme: Letter Grade
Application of biological and resource management theory to the problem of the conservation of natural communities. Offered fall term.
Prerequisite: basic courses in ecology, genetics.

WIS 5562 Conservation Medicine 3 Credits
Grading Scheme: Letter Grade
Discusses conservation and wildlife forensic science with a transdisciplinary approach. Topics include forensic science, wildlife crime, illegal wildlife trade, and bushmeat trade; ecotoxicology, and the use of plants to harm humans, livestock, or wildlife.

WIS 6050 Pro Communication in Wildlife Forensic Sciences 3 Credits
Grading Scheme: Letter Grade
Course will cover areas of scientific communication crucial to a successful career. Basic principles of written and verbal communication are covered before progressing into scientific writing style and composition. This foundation will be used to apply principles to writing research papers and statements, review articles, grant proposals, presentations and posters.

WIS 6051 Wildlife Tracks and Sign 3 Credits
Grading Scheme: Letter Grade
Intended for wildlife professionals who wish to have a deeper understanding of the behavior of terrestrial animals in terms of the habitats they frequent, what and where they feed, den and bedding locations, and other activities. Will enhance the quality of field work in as it pertains to conducting animal surveys, observations, and capturing/handling wildlife.

WIS 6052 Bird Language 3 Credits
Grading Scheme: Letter Grade
Intended for wildlife professionals who wish to have a deeper understanding of bird behaviors and how their 'language' plays a key role in the complex interactions occurring between species of the animal kingdom with highly developed cognitive abilities.

WIS 6306 Applied Wildlife Forensic Genetics 3 Credits
Grading Scheme: Letter Grade
Provides an overview of the principles of genomics and population genetics as they apply to forensic science and forensic DNA analysis. A strong emphasis will be placed on the theories and models of population genetics and how they are directly applied in forensic DNA typing and the interpretation of results.
Prerequisite: VME 6573.

WIS 6307 Integrated Wildlife Forensic Genetics 3 Credits
Grading Scheme: Letter Grade
This is an integrative course to be taken by students who have completed the Introduction to Forensic Genetics for Companion Animals and Wildlife, and the Applied Wildlife Forensic Genetics courses. Throughout the course students will be required to set up procedures and/or follow procedures in their mock forensic laboratory
Prerequisite: VME 6573 and WIS 6306.

WIS 6405 Biodiversity 3 Credits
Grading Scheme: Letter Grade
Biodiversity emerges from a combination of ecological and evolutionary processes operating across many scales of space and time. This course examines the concept of biodiversity and the processes that generate important patterns of biodiversity in ecology.

WIS 6421 Wildlife Toxicology: The Ecohealth Perspective 3 Credits
Grading Scheme: Letter Grade
Provides a global assessment of toxicological stressors, including pesticides, environmental contaminants, and other emerging chemical threats, and reviews the impact on wildlife, through an ecohealth perspective. Outlines the physiological and pathological impacts of toxins in wildlife as it relates to the investigative process for wildlife forensics.

WIS 6425 Carrion Ecology and Evolution 3 Credits
Grading Scheme: Letter Grade
Carrion Ecology and Evolution includes a range of organisms including molecular, bacterial, fungal, invertebrate, and vertebrate communities. Intra interspecific interactions related to population biology, community ecology, processes that manifest into habitats and ecosystems will be addressed. A multidisciplinary view of organisms will provide the basis for understanding decomposition.

WIS 6444C Wetland Management 3 Credits
Grading Scheme: Letter Grade
Prepares students for basic monitoring, field research, and management of wetlands, using ecological principles and knowledge of community variation in relation to stressors. Identification, monitoring techniques, and management and restoration techniques will be taught through a combination of class lectures and hands-on field exercises and labs.

WIS 6455 Wildlife Population Ecology 3 Credits
Grading Scheme: Letter Grade
Rigorous background in population analysis covering population growth and regulation, species interactions, life-history theory, and population viability analysis.

WIS 6466 Wildlife Population Modeling 3 Credits
Grading Scheme: Letter Grade
Theory and applications of life tables, age, and stage-structured matrix population models. Sensitivity analysis and analysis of life table response experiments. Unstructured population models.
Prerequisite: one course in calculus or liner algebra; one course in basic or popular ecology.

WIS 6468C Pattern and Process in Landscape Ecology 3 Credits
Grading Scheme: Letter Grade
Exploration of applied and quantitative methods to explore links between landscape patterns and processes.

WIS 6505C Quantitative Analysis of Animal Populations 3 Credits
Grading Scheme: Letter Grade
Quantitative models are useful to explain and predict animal population's patterns and processes. Model's usefulness stems from their ability to synthesize complex processes using a limited number of parameters and assumptions. In this course, students will learn the theory and application of quantitative methods to estimate population level statistics and quantify related uncertainty
Prerequisite: STA 6093.

WIS 6522 Coupled Human and Wildlife Systems 3 Credits
Grading Scheme: Letter Grade
This course will train graduate students in implementing the Coupled Human and Natural Systems (CHANS) framework for interdisciplinary wildlife research around the globe. This is an interdisciplinary approach to addressing global challenges by explicitly examining interactions and feedbacks between humans (e.g., culture, socioeconomics, governance) and nature (e.g., wildlife, plants, abiotic features).
Prerequisite: PCB 4043C or equivalent or permission of instructor

WIS 6526 Stakeholder Engagement in Natural Resources 3 Credits
Grading Scheme: Letter Grade
This course introduces the concept of stakeholders and builds understanding of diverse perspectives of people that affect or are affected by natural resource decisions. The course also provides students with a variety of tools to engage with communities/groups for effective decision-making.

WIS 6544 Administration in Natural Resources 3 Credits
Grading Scheme: Letter Grade
Natural resource agency administration primer in budgets, personnel management, program development, leadership, and strategic planning.

WIS 6557 International Wildlife Conservation Law, Policy and Ethics 3 Credits
Grading Scheme: Letter Grade
Upon successful completion of the course, students will understand the complexity of the international legal structure and be able to identify the organizations tasked with developing and enforcing international wildlife laws. In addition, students will gain skills necessary to identify the ethical and cultural concerns complicating solutions to conservation issues.

WIS 6558 Introduction to U.S. Wildlife Law, Policy & Ethics 3 Credits
Grading Scheme: Letter Grade
Upon successful completion of this course students will possess a thorough understanding of the U.S. legal system governing fish and wildlife conservation as it relates to wildlife management and will develop the skills necessary to analyze the complex stakeholder motivations affecting U.S. wildlife conservation policies from multiple perspectives.

WIS 6559 Forensic Science for Conservation Biology 3 Credits
Grading Scheme: Letter Grade
This course will demonstrate the relationship between the forensic sciences and conservation biology and how the many different forensic disciplines can be applied to ecological and conservation-based issues. Students will gain an understanding of wildlife ecology, biodiversity, current environmental and wildlife concerns, and environmental forensics.

WIS 6561 Wildlife Crime Scene Processing 3 Credits
Grading Scheme: Letter Grade
Provides a detailed understanding of forensic science and medicine and how to properly document and process a crime scene where wildlife may be the victim, or possibly the perpetrator. Focus is on evidence recognition and handling as well as techniques for the improvisation of crime scene processing equipment under field conditions.

WIS 6563 Wildlife Forensic Pathology 3 Credits
Grading Scheme: Letter Grade
Examine the pathology and pathogenesis of infectious and non-infectious diseases, traumatic injury, and poisoning that are a feature of wildlife forensic cases. Recognition of aspects of gross and histopathological pathology and correlate changes with clinical pathology and other data. Understand infectious agents and involvement in the production of pathological lesions.

WIS 6565 Negative and Suboptimal Research Findings in Wildlife Forensics 3 Credits
Grading Scheme: Letter Grade
This course highlights the value and limitations of 'non-findings' and small or singular sample sizes in research. The focus is on giving participants tools with which to formulate meaningful research conclusions while accurately conveying the quality or scope of evidence gathered.

WIS 6576 Human and Wildlife Conflict 3 Credits
Grading Scheme: Letter Grade
Introduces issues of human and wildlife conflict both in historical context and current conservation. Explore solutions, including innovative and traditional agricultural practices, hunting and tourism as potential means of off-setting the cost of wildlife damage, and policy development at the local, regional, and national or international levels.

WIS 6905 Research Problems in Wildlife and Range Sciences 1-6 Credits, Max 10 Credits
Grading Scheme: Letter Grade
Research Problems in Wildlife and Range Sciences
Prerequisite: consent of instructor.

WIS 6910 Supervised Research 1-5 Credits, Max 5 Credits
Grading Scheme: S/U
Supervised Research
Prerequisite: consent of instructor.

WIS 6933 Seminar 1 Credit
Grading Scheme: S/U
Seminar

WIS 6934 Topics in Wildlife Ecology and Conservation 1-4 Credits, Max 16 Credits
Grading Scheme: Letter Grade
Advanced concepts and practices in wildlife management and conservation. Topics vary.

WIS 6940 Supervised Teaching 1-5 Credits, Max 5 Credits
Grading Scheme: S/U
Supervised Teaching
Prerequisite: consent of instructor.

WIS 6946 Wildlife Forensics Internship 1-6 Credits, Max 6 Credits
Grading Scheme: S/U
This internship will provide an opportunity for students to gain first-hand experience at a public or private conservation, ecological or forensic institution of their choice, with approval for credit from the University of Florida (UF). Placement is designed to integrate theory and practice beyond the scope of the online program.

WIS 6971 Research for Master's Thesis 1-15 Credits
Grading Scheme: S/U
Research for Master's Thesis

WIS 7979 Advanced Research 1-12 Credits
Grading Scheme: S/U
Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

WIS 7980 Research for Doctoral Dissertation 1-15 Credits
Grading Scheme: S/U
Research for Doctoral Dissertation