

# WILDLIFE AND FISHERIES SCIENCE (WFS)

## WFS 500: Professionalism in Natural Resources

3 Credits

Scholarly discussion and critique of skills important to professionalism of students in natural resources, wood products, and related science-based disciplines. W F S 500 Professionalism in Natural Resources (3) The course will give an in-depth coverage of issues and skills pertinent to the professionalism of graduate students in natural resources, wood products, or related science-based disciplines. Particular focus will be given to a discussion, critique, and development of communication skills (oral and written). In addition, a spectrum of pertinent topics and issues relevant to graduate students will be discussed in depth, ranging from the philosophy and land-grant institutions and to those important to the academic success of graduate students and their success in future careers. This course will be offered in fall semester each year.

**Prerequisite:** graduate student standing or permission of program

## WFS 510: Design of Ecological Field Studies

2 Credits

Application of the scientific method and general principles of designing ecological field studies through discussion and critique of the primary literature.

## WFS 542: Systematics

3 Credits

Principles and methods of classification, phylogeny, and speciation; taxonomic techniques; analysis of species; causal interpretation of animal diversity.

## WFS 552: Systematics and Evolution of Fishes

3 Credits

Detailed study of the systematics, evolution, identification, and natural history of fishes.

**Prerequisite:** BIOL 421 , W F S 452

## WFS 560: Population Estimation and Modeling

4 Credits

Application of statistical models to estimating population parameters to test ecological theories. W F S 560 Population Estimation and Modeling (4) The purpose of this course is to impart a working knowledge of statistical methods for estimating fish and wildlife populations. Primary emphasis will be on methods of estimating population size, survival rates, and birth rates as they relate to testing hypotheses about population dynamics. Most of the course will focus on mark-recapture models for both open and closed populations, but other methods such as distance sampling and removal models that do not require marked animals will be studied.

**Prerequisite:** STAT 500 , STAT 501 or STAT 502

## WFS 585: Applied Spatial Ecology

3 Credits/Maximum of 999

Students will develop skills in understanding and processing complex datasets while learning traditional and innovative methods for spatial data analysis. The purpose of this course is to assist researchers on methods for data management and analysis using a state-of-the-art statistical program after data has been collected in the field or for designing field experiments. The course focuses on wildlife/fisheries research, both basic and applied, that rely on large ecological datasets that provide unique opportunities to explicitly incorporate sources of spatial and temporal variability into understanding motivations for an organism's movements, resource selection, subpopulation structuring, or presence in a landscape. The impetus behind this course and resulting manual was to import data from spreadsheet software, import Geographical Information Systems (GIS) layers, and conduct statistical analysis of datasets all in a single software platform. In the past several decades, advancements in data acquisition have resulted in datasets often with thousands of records. Concurrent with these advancements in acquisition, methods of handling and manipulating large datasets, GIS capabilities, and methods of estimators for home range, movements, resource selection, and spatial epidemiology have increased dramatically.

## WFS 590: Colloquium

1-3 Credits/Maximum of 3

Continuing seminars which consist of a series of individual lectures by faculty, students, or outside speakers.

Cross-listed with: FOR 590, SOILS 590

## WFS 596: Individual Studies

1-9 Credits/Maximum of 9

Creative projects, including nonthesis research, which are supervised on an individual basis and which fall outside the scope of formal courses.

## WFS 597: Special Topics

1-9 Credits/Maximum of 9

Formal courses given on a topical or special interest subject which may be offered infrequently.

## WFS 600: Thesis Research

1-15 Credits/Maximum of 999

No description.

## WFS 601: Ph.D. Dissertation Full-Time

0 Credits/Maximum of 999

No description.

## WFS 602: Supervised Experience in College Teaching

1-3 Credits/Maximum of 6

Provides an opportunity for supervised and graded teaching experience in wildlife courses.

WFS 610: Thesis Research Off Campus

1-15 Credits/Maximum of 999

No description.

WFS 611: Ph.D. Dissertation Part-Time

0 Credits/Maximum of 999

No Description.