

Animal Behavior Syllabus

Meets: MW 12:55pm-1:45pm KIMP Auditorium (105) F 12:55-2:45pm SCEN 606 (computer lab)

Lab: F 12:55-2:45pm, + guided independent research project

Instructor: Dr. Erica Westerman (ewesterm@uark.edu)

Office: SCEN 416

Office hours: Wed 2-3pm, Fri 10-11am

Course Goals: Students will learn the basic principles of animal behavior, including an introduction to the theory underlying such concepts as optimal foraging, cooperation, and honest signaling. Students will learn how to conduct animal behavior research, enhance their ability to critically read scientific literature, and improve their written and spoken communication skills.

Main Forms of Assessment: 2 midterm exams (First midterm: 17%, Second midterm: 20%), 1 cumulative final exam (20%). Study guide for 1 lecture, assigned by last name (3%). Oral presentation of independent research project (rough draft presentation, final presentation, participation during question portions of research symposium) (20%). Written report of independent research project (topic selection, justification/outline, experimental design/ethogram, preliminary results, rough draft, final draft) (20%). Attendance (10%). There is one grade for the course and lab.

Text: Animal Behavior: An Evolutionary Approach 11thth Edition by Dustin Rubenstein & John Alcock

General Course Format: MW lectures, F discussion/lab

Schedule

Week 1 (1/13-1/17): **M** Behaviors as traits/role in evolution **W** Overview of syllabus/What do we mean when we say Animal Behavior? **F** Proximate and ultimate causes of behavior
Reading: R&A Chapter 1

Week 2 (1/20-1/24): **M** MLK Day **W** Introduction to R-SCEN 606!! **F** Brief History of Animal Behavior/Studying behavior/Review of Intro to R
Reading: R&A Chapter 2

Week 3 (1/27-1/31): **MW** Development of Behavior/Neural mechanisms of behavior **F** experimental design/R tutorial I
Reading: R&A Chapter 3, Chapter 4

Week 4 (2/3-2/7): **MW** Sensory Systems/Circadian Rhythms **F** collaborative work, pick team (of 3)/R tutorial II
Reading: R & A Chapter 5, Papers

Week 5 (2/10-2/14): **MW** Hormones/ Hormones and Sex **F** mini-experiment, project topic due (Saturday review session)

Research Topic due 2/14

Reading: R&A Chapter 5 166-183

Week 6 (2/17-2/21): **M** Exam **W** Adaptation **F** methods, results reproducible?/R tutorial III

Reading: J.A. Chapter 6 (from edition 9, will get shared/passed out in class)

Week 7 (2/24-2/28): **MW** Optimal Foraging Theory/Predation defense **F** paper discussion (how to write an abstract/scientific paper) project justification/outline due/ R tutorial IV

Justification/rough draft of Project Plan due 2/28

Reading: R&A Chapter 6

Week 8 (3/2-3/7): **MW** Habitat Selection/Migration **F** discussions of methods, experimental design/R tutorial V

Reading: R&A Chapter 7

Week 9 (3/9-3/13): **MW** Communication/Honest Signaling **F** present methods, constructive criticism, ethograms due, discuss effect of time of day on behavior (independent data collection)/R tutorial VI

Experimental design and ethogram due 3/13

Reading: R&A Chapter 8

Week 10 (3/16-3/20): **MW** Reproduction/Mating Systems **F** Analyzing behavioral data I- Exploratory statistics/R tutorial VII (independent data due)

Reading: R&A Chapter 9

Spring Break (3/23-3/27)

Week 11 (3/30-4/3): **M** Review **W** Exam **F** Analyzing behavioral data II- parametric and non-parametric tests /R tutorial VIII, prepare for next week

Reading: R&A Chapter 10

Week 12 (4/6-4/10): **MW** Parental Care, social behavior **F** Annual behavioral data collection

Reading: R&A Chapters 11, 12

Week 13 (4/13-4/17): **M** Cooperation, preliminary results due, **W** Behavioral Plasticity **F** Group Data analysis

Preliminary Results due 4/13

Reading: R&A Chapter 13, Papers-

Week 14 (4/20-4/24): **M** Environmental Effects, rough draft of paper due **W** Behavioral Genetics **F** Wrap-up and Discussion of Class Data

Rough Draft of term-paper due 4/20, practice presentation

Reading: Papers-

Week 15 (4/27-5/1): Project Presentations

Mandatory one-on-one meetings to discuss paper rough draft

Final Exam: TBD (probably Monday May 4, 12:45pm-2:45pm)

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