

ANIMAL BEHAVIOR**BIOL 428****FALL 2009**

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Office hours: M, W 9:00-10:50; R 10:00-10:50 and by appointment

Lecture T, R 1:00-1:50, Holt 235; Lab R 2:00-4:50, Holt 235

Text: Animal Behavior: An Evolutionary Approach, 9th ed., John Alcock. Sinauer Associates.

This course explores the basic questions, "What are animals doing, and why are they doing it?" Rather than regarding behavior as a purely psychological phenomenon, we will rely heavily on the evolutionary approach, which emphasizes the adaptive values of behaviors. Since animal behaviors evolve in the context of intraspecific and interspecific interactions, as well as in the abiotic environment, situating such behaviors ecologically is necessary for developing a deeper understanding of them. The course includes lectures and student-led discussions, as well as a significant lab component in which students will develop their own projects investigating animal behaviors. My hope is not only to foster a greater appreciation of the diversity of behaviors, but to empower students with the ability to construct testable hypotheses about behavior, through critical observations and the application of the scientific method.

Exams will include multiple-choice, short-answer and essay questions and will cover material from lecture, lab and the textbook. The mid-terms will be non-cumulative; the final, semi-cumulative. Guidelines for write-ups and oral presentations will be handed out separately. For maximum credit, lab books should include a table of contents, any notes or data from the class exercises, and a brief summary of the principal findings from each study (with the exception of the two write-ups, which are submitted separately). **Project proposals** should include a brief introduction stating the nature of the problem to be studied, a clear hypothesis and predictions, and a convincing materials and methods plan, including data analysis. **Progress reports** should include all the above elements, plus a data set and analysis. A \$40 Miscellaneous Course Fee to cover field trip expenses is due at Registration; otherwise, pay by Week 4 at the Cashier's Office in Kendall 212 (to avoid having student services withheld). The last drop day without any signature is the end of Week 2. **Final grades** are based on your performance relative to the whole class.

Grading breakdown

Quiz	20 pts
Exam I	100 pts
Exam II	100 pts
Lab write-ups (2 @ 25 each)	50 pts total
Lab book	50 pts
Project proposal	20 pts
Progress report	20 pts
Project presentation	25 pts
Project write-up	75 pts
Attendance and participation	40 pts
Final exam	150 pts
Total points	650

TENTATIVE SCHEDULE

Please note: Because of the state budget crisis, the number of days on which we can meet for class and lab has been trimmed. My apologies!

Readings

Aug 25	Introduction	
Aug 27	The Evolutionary Approach to Behavior	Ch. 1
Aug 27	Introduction to Lab	
Sep 1	Proximate and Ultimate Causes of Bird Song	Ch. 2
Sep 3	QUIZ ; Proximate and Ultimate Causes of Bird Song	
Sep 3	On-campus observations of behavior	

Sep 8	NO CLASS	
Sep 10	Development of Behavior	Ch. 3
Sep 10	Field trip: collect <i>Physa</i> snails; Lizard thermoregulatory behavior	
Sep 15	Development of Behavior	
Sep 17	Neural Mechanisms of Controlling Behavior	Ch. 4
Sep 17	<i>Physa</i> shell-waving display trials (write-up #1)	
Sep 22	Neural Mechanisms of Controlling Behavior	
Sep 24	Behavioral Adaptations for Survival	Ch. 6
Sep 24	Pollinator behavior studies	
Sep 29	Behavioral Adaptations for Survival	
Oct 1	EXAM I	
Oct 1	Data analysis: pollinators, lizards	
Oct 6	Foraging Behavior	Ch. 7
Oct 8	Foraging Behavior	
Oct 8	Field trip: salmon migratory and mating behaviors	
Oct 13	Habitat Selection	Ch. 8
Oct 15	NO CLASS	
Oct 20	Communication	Ch. 9
Oct 22	Communication	
Oct 22	Project proposals due ; Field trip: Acorn Woodpecker time budgets (write-up #2)	
Oct 27	NO CLASS	
Oct 29	Reproductive Behavior	Ch. 10
Oct 29	Woodpecker studies follow-up	
Nov 3	Reproductive Behavior	
Nov 5	EXAM II	
Nov 5	Functional response lab	
Nov 10	NO CLASS	
Nov 12	Mating systems	Ch. 11
Nov 12	Progress reports due ; squirrel caching behaviors	
Nov 17	Parental Care	Ch. 12
Nov 19	Parental Care	
Nov 19	Field trip to Llano Seco	
Nov 23-27	THANKSGIVING BREAK	
Dec 1	Social Behavior	Ch. 13
Dec 3	Social Behavior	
Dec 3	Llano Seco follow-up	
Dec 8	Human Behavior	Ch. 14
Dec 10	TBA	
Dec 10	Project presentations	

FINAL EXAMINATION: Friday, Dec. 18, 2:00-3:50 in Holt 235