

SYLLABUS: Animal Behavior (EEB240,) Professor Suzanne Alonzo

Schedule: MW 9:00-10:15 a.m.

Room: 201 OML

Discussion sections: Friday time TBA

Day	Date	No.	Topic	Reading/ Assignment	
W	6-Sep	1	An introduction to animal behavior	Ch 1	3-23
F	8-Sep		<i>No section</i>		
M	11-Sep	2	A history of the study of animal behavior	Ch 2	27-53
W	13-Sep	3	Natural selection, evolution and behavior	Ch 3	55-79
F	15-Sep		<i>Essential information</i>	Library search (after)	
M	18-Sep	4	Genes, development and behavior	Ch 3 & 4	80-95, 130-139
W	20-Sep	5	Mechanisms and behavior	Ch 5	142-172
F	22-Sep		<i>Reading and thinking as a scientist</i>	Topic and list due	
M	25-Sep	6	Ecology, environment and behavior	Suppl.	Suppl. 1
W	27-Sep	7	Comparative approach and macroevolution	Ch 6	175-186
F	29-Sep		<i>Scientific writing and communication</i>		
M	2-Oct	8	Observations and experimental design	Suppl.	Suppl. 2
W	4-Oct	9	Theoretical approaches to studying behavior	Suppl.	Suppl. 3
F	6-Oct		<i>Discussion: What's the best approach?</i>	Outline Due	
M	9-Oct	10	Foraging	Ch 7	209-225
W	11-Oct	11	Predation	Ch 6	187-205
F	13-Oct		<i>Experimental design practice</i>	Design experiment	
M	16-Oct	12	Habitat selection	Ch 8	241-263
W	18-Oct	13	Territorial defense	Ch 6	264-272
F	20-Oct		<i>Review for midterm</i>		
M	23-Oct		Midterm Exam		
W	25-Oct	14	Sexual selection I	Ch 10	318-333, 341-347
F	27-Oct		<i>Trials of Life</i>		
M	30-Oct	15	Sexual selection II	Ch 10	348-359
W	1-Nov	16	Alternative mating strategies	Ch 10	334-340, Suppl. 4
F	3-Nov		<i>Discussion: Debating sexual selection</i>	Draft due in section	
M	6-Nov	17	Mating systems	Ch 11	369-404
W	8-Nov	18	Sexual conflict	Ch 10	360-365, Suppl. 5
F	10-Oct		<i>Feedback on drafts</i>	Outline talk	
M	13-Nov	19	Parental Care	Ch 12	405-418, 426-434
W	15-Nov	20	Guest lecture	TBA	TBA
F	17-Nov		<i>Presentations</i>	Presentation	
M	27-Nov	21	Living in groups and cooperation	Ch 13	437-477
W	29-Nov	22	The ecology and conservation of behavior	Suppl.	Suppl. 6 & 7
F	1-Dec	11	<i>Discussion: Altruism and selfishness</i>	Paper due in section	
M	4-Dec	23	Human behavior discussion	Ch 14	478-514
W	6-Dec	24	Review for final and wrap-up of the course		
F	8-Dec		<i>Grant proposal review panel</i>	Reviews	
	20-Dec		Final Exam: 2 pm		

Course description: In this course you will be introduced to the study of animal behavior using a combination of lectures, discussion and an independent research project. Lecture will focus on understanding animal behavior from an ecological and evolutionary perspective. You will learn about interesting (and sometimes crazy) behaviors that are observed. In the beginning of the course, we will start by going over how the evolution and ecology of animal behavior is studied. The second part of the course reviews current knowledge of key topics in animal behavior ranging from sexual selection to cooperation. We will focus on how scientists study animal behavior and what has been learned about the evolution and ecology of animal behavior. However, the general goal of the course is to develop the ability to think as a scientist. By the end of this course you should be able to identify an interesting scientific question, determine how it could be studied and critically evaluate existing evidence.

Required textbook: (MUST be this edition)

Alcock, J. 2005. *Animal Behavior. An Evolutionary Approach*. Eighth Edition. Sinauer Associates, Sunderland, Mass.

Supplemental Reading

- 1 Miner BG, Sultan SE, Morgan SG, Padilla DK, Relyea RA. 2005. Ecological consequences of phenotypic plasticity. *Trends in Ecology and Evolution* 20: 685-692
- 2 Lehner PN. 1996. *Handbook of Ethological Methods*. 2nd edition. Pages 1-16. Cambridge: Cambridge University Press.
- 3 Parker GA, Maynard Smith J. 1990. Optimality theory in evolutionary biology. *Nature*. 348:27-33
- 4 Chapman T, Arnqvist G, Bangham J, Rowe L. 2003 Sexual conflict. *Trends In Ecology and Evolution*. 18: 41-47
- 5 Gross M. 1996. Alternative reproductive strategies and tactics: diversity within sexes. *Trends in Ecology and Evolution*. 11:92-98
- 6 Sutherland W. 1998. The importance of behavioural studies in conservation biology. *Animal Behaviour* 56: 801-809
- 7 Caro, T. Controversy over behaviour and genetics in cheetah conservation. In: *Behaviour and Conservation*. pages 221-237 (ed. L.M. Gosling and W.J. Sutherland) Cambridge: Cambridge University Press

Writing assignment: You will conduct library research on a species and topic in animal behavior. First, you will choose a topic and species to study. They must be approved by your teaching fellow and professor. Using the library and online databases, you will come up with a reading list from the primary literature that will give you background information on your species and topic. You will write a research proposal that first reviews what is and is not known about your species and topic. You will then develop a novel question and hypothesis, design a specific empirical study to test your hypothesis.

Discussion section: You are required to attend a weekly discussion section. They will meet on Fridays for 50 minutes. In the discussion section, you will have assignments related to your writing project as well as lecture and reading materials. Attendance and participation in the discussion section represents 10% of your final grade.

Grading: Grades will be based on one midterm (25%), a final exam (35%), the research proposal (30%) and participation and assignments in the discussion section (10%). Exams will cover material presented in lectures, discussion sections and assigned readings. The final will be comprehensive.