BIOL 207-01, Animal Behavior, Fall 2009

Biology 207: Animal Behavior

Dr. Sarah Boyle
E-mail:boyles@rhodes.edu
Phone: x3407; 355-3801 (before 9 pm)

Office Hours: Mon. & Wed. 9:30 - 10:45AM
And by appointment
Office: FJ 119-E

Welcome to Animal Behavior! In this course, students will receive a broad introduction to animal behavior. Topics will range from neurons and hormones to reproduction and kin selection. This course is intended for students who have a serious interest in animal behavior.

Objectives
The purpose of this course is to familiarize students with the underlying mechanisms of animal behavior through lectures, discussions, and research. The specific objectives of this course are as follows. By the end of the semester, students should:

- Understand the proximate and utimate causes of behavior;
- Have broad knowledge of the many areas of behavioral studies, including evolutionary, neural, developmental, ecological, and environmental behavior;
- Understand and be able to apply a range of theories associated with animal behavior;
- Be confident to read, understand, critique, and discuss scientific literature; and
- Have strong research and writing skills.

Students will demonstrate their knowledge about and understanding of the subject material through a combination of exams, class discussions, summaries of scientific papers, and a review paper.

Required Reading
Students are required to read the assigned chapters and articles in the following two books:

Alcock, J. 2009. *Animal Behavior: Ninth Edition*. Sinauer Associates, Inc.: Sunderland, Massachusetts, 606 pp. ISBN: 978-0-87893-225-2.

Sherman, P. A. and J. Alcock. 2005. *Exploring Animal Behavior: Readings From* American Scientist *(Fourth Edition)*. Sinauer Associates, Inc.: Sunderland, Massachusetts, 321 pp. ISBN: 978-0-87893-816-2.

Additional required readings are provided for students electronically, in PDF format, on Moodle.

Class Discussions
Each student will pair with another student and lead a class discussion on a scientific paper in an area of animal behavior. These papers are listed on the class schedule. Guidelines for leading a discussion are posted on Moodle. All students are expected to participate in and contribute to all class discussions, whether or not it is their presentation day. Failure to participate in class discussions will result in a lower discussion grade.

Summaries of Scientific Papers
Prior to attending class on Fridays, students will need to have read the scientific paper that will be discussed in class on that day. In order to better prepare students for class discussion, each student will be required to write a one-page summary of the scientific paper. Summaries of scientific papers are due by the start of class (11AM) through Moodle. Students will complete summaries for each of the discussion papers, with the exception of the scientific paper that the student uses in his or her class discussion. Summary papers should be typed, with 1-inch margins, font size no larger than 12, and single-spaced. The first paragraph should provide a brief summary of the scientific paper. The second and third paragraphs should address any comments that the student has on the paper, questions, and suggestions for further study. Summaries must be received by 11AM, or a grade of zero will be assigned. **No late assignments will be accepted.**

Review Paper
Each student will research an area in animal behavior of his or her choice, and write a review paper on the subject, using published scientific literature as references. The paper should be 8-10 pages in length, double-spaced. The subject of the review paper is the student's choice, as long as it addresses an aspect of animal behavior. The topic may be in the same *general* area as the Animal Behavior Laboratory's Zoo Research Project; however, the review paper will be longer, and go into greater detail on the topic, and students are not allowed to duplicate work for the review paper and the zoo research paper. Possible sources may include the following journals: *Behaviour*, *Animal Behavior*, *Behavioral Ecology*, *Ecology*, *Hormones and Behavior*, as well as journals that are taxa-specific (i.e., *Journal of Mammalogy*, *Journal of Entomology*, *International Journal of Primatology*, *Herpetological Review*, *Coepia*). Further guidelines on how to structure the review paper are be available on Moodle, and there will be one class dedicated to learning about literature searches. **The review paper is due by 11AM on Monday, November 23, 2009. No late papers will be accepted.**

Exams
There will be two exams throughout the semester, and a final exam. The final exam will be cummulative. All exams will be based on lectures, assigned readings, and discussion topics. Exam questions will include short-answer, essay, multiple-choice, and problem-solving (equations). All students must take the final exam. **There will be no make-up exams**.

Plagiarism
It is required that all students familiarize themselves with the information regarding plagiarism that is posted on Moodle. The act of plagiarism is a violation of the Honor Code, and all cases of plagiarism will be dealt with in a serious manner.

Grades
Students will receive a final grade for Animal Behavior (lecture and laboratory) based on a 500-point scale. The final grade for lecture (Biol 207) and laboratory (Biol 207L) will be the same. Points will be distributed as follows:

	Points	**% of Grade**
Lecture		
Exam 1	50 points	10%
Exam 2	50 points	10%
Review Paper	70 points	14%
Leading a Class Discussion	50 points	10%
Paper Summaries (7; 5 points each; lowest dropped)	30 points	6%
Final Exam	100 points	20%
Laboratory*		
Zoo research paper	50 points	10%
Zoo presentation	20 points	4%
Lab assignments (8; 10 points each)	80 points	16%
Total:	500 points	100%

Final grades will be determined using the following scale:

100-93%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	<60%	F

*Futher details on the lab portion of the course are outlined in the laboratory syllabus.

Schedule

Items in **bold indicate that a graded assignment or task is due on that day**

Day	Date	Subject	Required Readings
Wed.	Aug. 26	Introduction	Ch. 1 (Alcock)
Fri.	Aug. 28	Bird Songs	Ch. 2 (Alcock)
Mon.	Aug. 31	Behavioral Development	Ch. 3 (Alcock)
Wed.	Sep. 2	Development: Evolution & Adaptation	
Fri.	Sep. 4	Meet Lee Boulie; Literature Searches	
Mon.	Sep. 7	Labor Day Holiday – No Class	
Wed.	Sep. 9	Neurons	Ch. 4 (Alcock)
Fri.	**Sep. 11**	**Discussion 1: Animals and Numbers**	**Hauser 2000 (S&A)**
Mon.	Sep. 14	Cycles	Ch. 5 (Alcock)
Wed.	Sep. 16	Hormones	Wingfield et al. 1987 (S&A)
Fri.	**Sep. 18**	**Discussion 2: Prenatal Hormones**	**Vandenbergh 2003 (S&A)**
Mon.	Sep. 21	Predator Avoidance	Ch. 6 (Alcock)
Wed.	Sep. 23	Predator Avoidance, continued	May 1991 (S&A)
Fri.	**Sep. 25**	**EXAM #1**	
Mon.	Sep. 28	Foraging	Ch. 7 (Alcock)
Wed.	Sep. 30	Foraging, continued	
Fri.	**Oct. 2**	**Discussion 3: Physiology of Helping**	**Schoesch 1998 (S&A)**
Mon.	Oct. 5	Habitat Selection	Ch. 8 (Alcock)
Wed.	Oct. 7	Migration	
Fri.	**Oct. 9**	**Discussion 4: Bowerbirds**	**Borgia 1995 (S&A)**
Mon.	Oct. 12	Territoriality	
Wed.	Oct. 14	Territoriality, continued	
Fri.	**Oct. 16**	**NO CLASS – Work on Review Paper**	
Mon.	Oct. 19	Fall Recess – No Class	
Wed.	Oct. 21	Communication	Ch. 9 (Alcock)
Fri.	**Oct. 23**	**Discussion 5: Mozart's Starlings**	**West and King 1990 (S&A)**
Mon.	Oct. 26	Deception	
Wed.	Oct. 28	Language	
Fri.	**Oct. 30**	**EXAM #2**	
Mon.	Nov. 2	Mate Competition	Ch. 10 (Alcock)
Wed.	Nov. 4	Mate Choice	Eberhard 1990 (S&A)
Fri.	**Nov. 6**	**Discussion 6: Insect Sex Differences**	**Thornhill and Gwynne 1986 (S&A)**
Mon.	Nov. 9	Mating Systems	Ch. 11 (Alcock)
Wed.	Nov. 11	Mating Systems, continued	
Fri.	**Nov. 13**	**Discussion 7: Hermaphroditism**	**Warner 1984 (S&A)**
Mon.	Nov. 16	Parental Care	Ch. 12 (Alcock)
Wed.	Nov. 18	Brood Parasitism	Getz and Carter 1996 (S&A)
Fri.	**Nov. 20**	**Discussion 8: Avian Siblicide**	**Mock et al. 1990 (S&A)**
Mon.	**Nov. 23**	Video and Discussion **Review Paper Due by 11AM**	
Wed.	Nov. 25	Thanksgiving Recess – No Class	
Fri.	Nov. 27	Thanksgiving Recess – No Class	
Mon.	Nov. 30	Altruism	Ch. 13 (Alcock)
Wed.	Dec. 2	Eusociality	
Fri.	Dec. 4	**Discussion 9: Naked Mole-Rats**	**Honeycutt 1992 (S&A)**
Mon.	Dec. 7	Sociobiology	Ch. 14 (Alcock)
Wed	Dec. 9	Human Mate Preference	Buss 1994 (S&A)
Sat	**Dec. 12**	**Final Exam 8:30 AM**	