

SPRING 2008

ANIMAL BEHAVIOR

BIOL 326

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LECTURE AND READING SCHEDULE*

<u>Date</u>	<u>Topic</u>	<u>Reading (Ch #)**</u>
2/7	Introduction to animal behavior and brief history	
2/12	An evolutionary approach to animal behavior and hypothesis testing	1
2/14	An evolutionary approach to animal behavior and hypothesis testing	1
2/19	Development: genes, environment and learning	3
2/21	Development: genes environment and learning; paper discussion	3
2/26	Sensory perception and neural mechanisms	4
2/28	Sensory perception and neural mechanisms; paper discussion	4
3/4	Control of behavior: nerves and hormones	5
3/6	Control of behavior: nerves and hormones	5
3/11	Bird song; proximate and ultimate causes	2
3/13	Bird song: proximate and ultimate causes; paper discussion	2
3/18	EXAM I; Antipredator behavior	6
3/20	Antipredator behavior; paper discussion	6
3/25 and 3/27	SPRING BREAK	
4/1	Foraging behavior	7
4/3	Foraging behavior	7
4/8	Habitat selection, migration and territoriality	8
4/10	Habitat selection, migration and territoriality; animal behavior observation methods	8
4/15	Evolution of reproductive behavior	10
4/17	Evolution of reproductive behavior; paper discussion	10
4/22	Mating systems	11

4/24	Mating systems; paper discussion	11
4/29	EXAM II; Parental care	12
5/1	Parental care; paper discussion	12
5/6	Communication	9
5/8	Social Behavior	13
5/13	Human Behavior; paper discussion	14
5/15	Behavior and conservation	
5/20	FINAL EXAM 3:00-4:50am	

* This **syllabus** is intended as a guide to our course this semester. If it seems useful to alter this schedule for educational reasons, we will do so in class.

****Required text:** *Animal Behavior* 8th edition by John Alcock. In addition, supplementary readings will be posted on Sakai or handed out during class.

Course prerequisites: Biol 323 or instructor's consent.

Course overview: This course is intended to provide a broad survey of key animal behavior concepts and to integrate behavioral analyses into an explicitly evolutionary framework. We will seek to understand both the proximate mechanisms underlying behavior and ultimate evolutionary reasons for the existence of a behavior. In the first part of the course we will focus on understanding the proximate causes underlying behavior. In the second part of the course we will examine the ultimate evolutionary reasons for the existence of a behavior. Some of the topics to be considered include anti-predator behavior, foraging behavior, habitat selection, migration, territoriality, animal communication, sexual selection and mate choice, sexual conflict, mating systems, parental care, kinship, and cooperation. Course material will be covered in both lectures and in discussions of research papers. In addition, there will be a group field project in which students develop a question about an animal behavior and collect and analyze data to answer this question. Intellectual skills to be emphasized include the interpretation of graphs and other data, the critical evaluation of the primary literature (i.e. research papers), and the formulation of testable hypotheses.

Office hours: My office is located in room 150 in the Rieke Science Center. My office hours are 10:00-11:00 on Tuesday and 12:00 – 2:00 on Friday or by appointment. Please call or e-mail me to schedule a time.

Evaluation will be based on the three exams, field research project, and participation during class discussions. Exams will consist of a mixture of multiple choice, definition/short answer, and essay questions.

Exams

In-Class Exams: There will be two in-class exams, each worth 100 points. The dates of the in-class exams are Tuesday **March 18**; Tuesday **April 29**.

Final Exam: There will be a cumulative final exam on Tuesday, **May 20**. The final exam is worth 150 points. 50 points on the final exam will cover material drawn from the entire course (i.e. they are cumulative or comprehensive). 100 points on the exam will be from lecture material covered since the last exam. The final exam is **MANDATORY** to complete the course.

Exam Policies

There are no make-up exams. During the first week of the semester you must notify me if you have a university-sponsored conflict with any of the scheduled exams. At this time we will discuss arrangements for you to take the exam early. A missed exam for a non-University sanctioned excuse will receive a zero.

In-Class Exams: Should you have an unanticipated emergency (*e.g.* serious illness, death in the family) that causes you to miss an in-class exam, please contact Julie Smith with written documentation immediately (for example, physician documentation of serious illness).

Final Exam: You **MUST** take the final exam in order to complete the course. If an emergency results in you missing the final exam, you must contact Julie Smith with written documentation immediately (for example physician documentation of serious illness). You must make arrangements to take a make-up final with Julie Smith in order to complete the course. If you fail to contact Julie Smith and provide the necessary documentation, you will receive a zero for the final exam and your final course grade will be calculated based on this score.

Field Research Project

The field research projects will be conducted outside of class during the week of **April 4/21-4/27**. The goal of these projects is to learn to make behavioral observations of animals in the field and to design an observation study that tests a specific hypothesis regarding animal behavior. Projects will focus on the behavior of animals found in abundance near campus. You will work in small groups of 5 students to design your study, collect and analyze the appropriate data, and write a short report in the form of a formal research paper. On **4/10** we will discuss projects and give you an introduction to the observation of animals. On **4/18** I will meet with each group between 12:00-2:00 to discuss projects. **The final report will be due on 5/9**. The field project will count 100 points toward your final grade.

Class Discussions

During part of class on 2/21, 2/28, 3/13, 3/20, 4/17, 4/24, 5/1, 5/13, we will discuss one or two research papers chosen by the instructor from the primary literature. These papers will be chosen to compliment the lecture topics for that week.

The goals of the discussions are two fold: first, to give you a sense of animal behavior as an active field of scientific research and second, to improve your ability to think critically. Each student must carefully read the assigned paper(s) each week and should prepare at least two questions or comments (positive or negative) about the assigned paper(s). You will turn in a copy of your questions to me at the end of class. Some things to consider as you read the papers are: What is the paper's primary objective? Does it attempt to test a specific hypothesis? Does the paper address alternative hypotheses? Are the methods appropriate? If the methods are observational are they free

from bias? If experimental, are they well designed? What conclusions do the authors draw from the results? Is each conclusion supported by the results presented? Where do the authors speculate if at all, and are these logical speculations? Are there any inconsistencies in the results? How do these results compare with previous work in the area? Do the results advance our understanding of this field of research? What further questions might be interesting to test in light of this work?

Your performance in discussions will be worth 30 points toward your final grade. Performance will be evaluated by attendance, weekly participation, and preparation of questions.

Assignment policies

All assignments must be typed. All assignments must be handed in on the date specified. One letter grade will be subtracted from your assignment score for each calendar day that the assignment is late. NOTE: All assignments must be submitted in person in class. I will not accept any electronic attachments.

Grading scale: A (90-100%), B (80-89%), C (70-79%), D (60-69%), E (0-59%), S ($\geq 70\%$)

Extra credit: No extra credit will be allowed.

Attendance: I will not take attendance except during discussions. Attendance is strongly encouraged as exams are based on the material covered in class.

Dropping the course: If a student wishes to drop the course, it is the student's responsibility to get the appropriate paperwork signed before the deadline to drop classes. The last day to drop without a fee is 2/20. You will not be automatically dropped if you fail to appear for exams. The last day to drop with "W" is 2/21.

Adding the course: The last day to add the course without a 50\$ fee is 2/13. The last day to add the course is 2/14. At this date there is a 50\$ fee and instructor's signature is required.

Conduct: Please see the PLU Academic Integrity Policy. This can be located on the Academics page under Policies and Guidelines. Please read the sections entitled *What is academic Integrity?* and *Penalties* carefully. Academic dishonesty on a test or assignment that constitutes 30% of the course grade results in a minimum penalty of a failing grade for the course. Academic dishonesty in course work that constitutes less than 30% of the course grade results in a minimum penalty of a zero for that work.

Special Accommodations: If you have or believe you have a disability and would benefit from any accommodations or if you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class please make an appointment with me immediately. Remember that it is your responsibility to notify me of any conditions that may affect your performance in this course. Information concerning services available for students with disabilities at PLU can be obtained by contacting Alene Klein in Ramstad 106, telephone 535-7206.