Summer 2014

BI 132

Introduction to Animal Behavior

Text: Exploring Animal Behavior, 6th (Sixth) edition. By Sherman & Alcock

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CLASS TIME (PAC 16) .................................................. 1000-1150 Mon-Thu

LAB TIMES (KLA 5)
Section 1 (CRN 45913) ........................................ 1300-1550 Mon & Wed
Section 2 (CRN 45914) ........................................ 1300-1550 Tue & Thu

OFFICE HOURS ............................................................. KLA 5 from 15:50 to 16:20 M-Th
Grade Breakdown (to be Finalized with student input in Lecture 1)

Midterm .......................................................... 20%
Final .............................................................. 20%
Aquarium report ............................................. 15%
Independent project ........................................ 15%
Labs .............................................................. 7.5%
Class worksheet activities ............................. 2.5%
Nightly Report ............................................... 5%
Attendance .................................................... 5%
3 Quizzes ....................................................... 10%

Notice to Students with Disabilities

The University of Oregon is working to create inclusive learning environments. If there are aspects of the instruction or design of this course that result in barriers to your participation, please notify me as soon as possible. You may also wish to contact Disability Services in 164 Oregon Hall at 346--1155 or disabsrv@uoregon.edu

Nightly Writing Assignments

Researchers evaluate information from literature and seminars on a daily basis. One cannot overemphasize the importance of analysis based on critical reading and listening skills for a successful scientist. These tools lie at the core of what we do – discover the unknown!! As a class, we will discuss an article from the primary (experiments) or secondary (reviews) literature on a daily basis. It is crucial to your success in this class that you show up on ready to talk, listen, and hopefully argue about the finer details of the assigned articles from Sherman and Alcock. To help you prepare for such sessions, I am assigning you the following nightly task for these readings. Read the assigned paper and underline questions, problems, or confusing elements you come across, then:

- Re-read the paper to try to answer your own questions, and make note of any problems you cannot Figure out on your own. I bet your classmates will have similar questions.
- Prepare a 1--page critique with the following elements:

1. Identify the following key aspects to a scientific article, you can use bullets:
   a. Goals: Identify the goals of the article and the problem the authors wish to solve in one or two sentences.
   b. Specific aim: What was the specific question(s) or hypothesis the authors addressed?
   c. Action And Result: What did the authors do to answer the question? What was the result?
   d. Retrospective significance. How does the work move the field forward?
   e. Prospective significance. What does the result mean for future work?
f. Critique on approach. Did the authors perform the best experiments for the problem?

2. Clearly identify the following 2 discussion points:
   a. Questions: Write 3 questions about the paper. Your questions can be probing, critical, or just plain being at a loss to understand a finding/analysis/interpretation.
   b. Outside source: Make a connection to an outside article – use this outside source to answer one of the questions you pose in 2(a) above. The article may be from the list of citations, from supplemental reading I give you, or from your own search. This is a chance for you to briefly explore some aspect of the paper that was especially interesting to you, and to take your exploration of the topic in a different direction from most or all your classmates. It can also help you look really smart to your classmates, if you can casually toss in an outside reference to back up an outrageous but true claim you want to make about the paper!

You must turn in each nightly journal at the beginning of class each day for a grade.

Independent Project

A major component of the laboratory will be your designing, carrying out, and presenting the results of your own independent study, on the final days of class. This independent research project will give you the opportunity to pick an animal or an aspect of animal behavior that is especially interesting to you. Each research team will pick an animal (found locally) or an aspect of animal behavior of interest, and will design an experiment to test a particular hypothesis regarding that behavior.

You are free to choose your own topic but it must be something that you can test in a 2.5 week period with the resources that we have available. I will meet with each research team at the beginning of the projects to help you with ideas and experimental design. After each group begins collecting the data and I will meet with each group to discuss appropriate ways to analyze and present the data.

At the end of the term, each group will present their results in a 15 minute presentation and hand in a single written report for the independent project for the entire group. I will ask you to provide grades for each other, as well, to ensure that all members carry their weight.

Each student should start journaling about ideas immediately, and start doing reconnaissance for field sites and animals that are easy to find in the area. I am requiring that you go on a field trip at a location of your choice. It would be efficient to do some of your observations for the project while on the field trip.

Each group must hand in a research proposal for their project. This research proposal should include:
1) A **Title** for your project

2) An **Introduction** section providing:
   a) Introductory material on your topic (you will need to research the literature and present background theory from the scientific literature).
   b) Your hypotheses and predictions. What hypotheses do you plan to test? Depending on your question, you may have one hypothesis that you will test or you may have several hypotheses.

3) A **Methods** section outlining the methods you will use. This should be very detailed and written as it would be in a scientific lab report. You should also include a paragraph or two carefully explaining: what data you will collect and how you will statistically analyze the data.

4) A **Results** section with your data presented in at least two ways, plus use of one statistic to test the significance of your findings.

5) **Conclusions**: what did you discover about the animal’s patterns of behavior or the occurrence

6) **List of Citations**: A literature cited section
Suggested sources for finding topics and information for your projects

**Books:** You may need to refer to books for some background information so that you will be able to understand the terminology in the journal articles.

- Alcock, Animal Behavior
- Krebs and Davies, An Introduction to Behavioral Ecology, and Behavioral Ecology and Evolutionary approach
- Goodenough, McGuire, Jakob. Perspectives on Animal Behavior

UO Library: Search the library catalog for other animal behavior and behavioral ecology books. Also search for books providing background information on the system/species you are covering (for example if you are doing a fish foraging topic you may need to refer to a fish biology book to get background information on fish so that you can understand the terminology in the literature).

**Journals:**
A large collection of Journals are available at the University of Oregon Libraries, both in print and online. Please remember that Online versions of journals can only be accessed while on campus, or by connecting to the UO network using VPN.

Some example journals:
- American Naturalist; Animal Behaviour; Behavior; Behavioral Ecology; Behavioral Ecology and Sociobiology; Ethology; Ethology and Sociobiology; Ecology; Journal of Comparative Physiology; Journal of Experimental Biology (1923); Nature (1863); Oikos Oecologia Evolution; Proceedings of the Royal Society (Started in 1800!); Birds (Auk, Condor: Ibis: Wilson Bulletin); Mammals (J.Mammalogy; Mammalia); Herps (Herpetologiaca; J. Herpetology); Fish (Canadian Journal of Fisheries and Aquatic Sciences; Environmental Biology of Fishes)

Databases for a literature search:
1. PubMed
2. Psychology and Behavioral Sciences Collection
3. BioOne