

Brown University
CLPS 1191: Animal Behavior Laboratory
Fall 2012
Syllabus

Instructor: Ruth M. Colwill, Professor of Psychology
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Office hours: Tuesdays 1.00-1.50 pm

Course preparation and supplies:

1. You need to submit a copy of a TB test report that is not more than a year old. This report is required by RWPZoo and can be obtained from Health Services. Please bring this to class on Wed Sept 12.
2. You need to obtain a field notebook for this class. See handout called The Field Notebook for details. Bring your notebook to class on Wed Sept 5.
3. You should bring a pair of disposable shoe covers (aka booties available at Home Depot), a rugged plastic freezer bag (to keep booties and rabbit scent for work in the field), and a pocket size tape measure (6-12 inches, Home Depot) if your field notebook does not have one (to measure animal tracks, etc). Six cameras and 4 trail cams will be provided by CLPS.

Course description

In this course, you will have hands-on training with standard research methodologies used to study animal behavior. You will also learn more general research skills that transcend this particular content area. Assigned readings and lectures cover the intellectual background for weekly assignments, the relative advantages and disadvantages of lab and field research, conservation and education issues, basic principles of experimental design, data analysis, and preparation of written reports, oral presentations, posters, and proposals. Research assignments allow you to practice the methodologies and may include use of observational techniques (e.g., live recording and camera traps), experimental methods (e.g., playback procedures and sand traps), and conditioning techniques for the management of captive species. There will be opportunities to develop a proposal for exhibit enrichment (e.g., novel enrichment activity for a captive species, improved signage for science education) or field research. This course is designed for students with a serious interest in animal behavior. Prerequisites: Intellectual curiosity, stamina, patience, a sense of humor, and a relentless passion for studying and understanding animal behavior. **Enrollment limited to 12. Written permission required.**

Course objectives

***To enhance your knowledge of animal behavior;** this course will provide you with the opportunity to learn about some key topics in animal behavior research and to review general principles of conditioning as they pertain to species management in zoos and other captive settings. Opportunities will also be provided for observing social behavior in a domestic species.*

***To develop your basic research skills;** you will learn how to conduct an observational study and set up a camera trap; how to write a laboratory report; how to formulate a testable hypothesis, how to use power point for presentations, and how to make an original contribution to the study of animal behavior.*

***To strengthen your critical and analytical thinking skills;** this course will teach you how to (1) evaluate critically observational and experimental data, (2) evaluate critically the interpretation of those data, and (3) develop methods to assess empirically hypotheses about animal behavior.*

***To enhance your oral and written communication skills;** through course assignments and instructor feedback, you will gain experience in presenting information clearly, asking and answering questions with confidence and you will learn how to defend your ideas and opinions.*

Recommended (optional) texts:

1. Background

Alcock, J. (1997). *Animal Behavior: An Evolutionary Approach, 6th Ed.* Sinauer Associates, Sunderland, MA

2. Research methods

Lehner, P. N. (1998). *Handbook of Ethological Methods.* Cambridge University Press.

Martin P. & Bateson, P. (1986). *Measuring Behavior: An introductory guide.* Cambridge: Cambridge University Press.

Shepherdson, D. J. (1999). *Second Nature: Environmental enrichment for captive animals (Zoo & Aquarium Biology & Conservation).* Washington, DC: Smithsonian Institution Press.

Course hours and travel arrangements:

The class will meet every Wednesday (1.00 – 4.00 pm) from 9/5 through 12/12 with one exception (11/21). Check schedule for meeting location (Metcalf 103 or RWPZ). Changes will be posted on MyCourses. You are responsible for making your own way to the Roger Williams Park Zoo. We recommend that you take the RIPTA bus to the entrance on Elmwood Avenue. Arrangements will be made for you to enter through the rear of the zoo (gate 3) near Tropical America. For classes at the zoo, please arrive by 1.25 pm so that we can check in at gate 3 as ONE group. You should also expect to conduct additional field work outside of the scheduled class time throughout the semester (average of 3 hours per week).

Evaluation

Field notebook:	30%
Assignments:	30%
Final project:	40%

Details about each method of evaluation will be distributed in class at the appropriate time.

Grading

All assignments must be attempted to be eligible for course credit. Late work will be evaluated on an S/NC basis. The scale below provides a guide to the grading system. However, it is expected that an "A" student will attend class routinely, turn in work on time, and submit work that is consistently of "A" quality. Work may be revised and resubmitted once prior to October 31.

A	90% - 100%
B	80% - 89%
C	65% - 79%
S	65% and over

Accommodations:

If you have a documented learning difference and require related accommodations it is your responsibility to meet with me early in the semester so that I can make the necessary arrangements. Please let me have a current copy of your academic accommodations letter from Disability Support Services.

Academic Integrity:

I strongly encourage you to talk with your peers about the course material and, when permitted, to collaborate on various assignments (usually for data collection). Not only will you develop a better understanding of the material, but you may also discover friendships that could last a lifetime. Note, however, that these collaborations may not always extend to the actual writing of laboratory reports. You must work independently on the written homework assignments, unless explicitly directed otherwise. It is your responsibility to be honest and to report any cheating including the fabrication of data. I expect you to familiarize yourself with the University's Academic Code and to demonstrate impeccable academic integrity. You can review the details of the Academic Code here:

http://www.brown.edu/Administration/Dean_of_the_College/curriculum/documents/principles.pdf

Schedule of topics and assignments (subject to revision)

Week 1: Introduction to the study of animal behavior (Metcalf 103) (Sep 5)

Skills I: Keeping a notebook, making observations and developing hypotheses

Homework Assignment: Interpreting dog behavior

Reading Assignments for week 2:

1. Martin, I. G. (1980). An Ethogram of Captive *Blarina brevicauda*. *American Midland Naturalist*, Vol. 104, No. 2. (Oct.), pp. 290-294.
2. McDonnell, S.M. & Haviland, J. C. S. (1995). Agonistic ethogram of the equid bachelor band. *Applied Animal Behaviour Science*, 43, 147-188
3. Huffard, C. L. (2007). Ethogram of *Abdopus Aculeatus* (D'Orbigny, 1834) (Cephalopoda: Octopodidae): Can behavioural characters inform octopodid taxonomy and systematics? *Journal of Molluscan Studies*, 73: 185-193.

Week 2: Observational methods and behavior analysis (RWPZ) (Sep 12)

Skills II: Preparing a poster in powerpoint

Research Assignment: Develop a partial ethogram. Observe, record, describe and analyze a behavior.

Writing Assignment: Powerpoint poster. **Email poster by 5 pm Sep 21.**

Reading Assignments for week 3:

1. Repp, Alan C., et al. (1976). A comparison of frequency, interval, and time-sampling methods of data collection. *Journal of Applied Behavior Analysis*, Vol 9(4), Win 1976. pp. 501-508.
2. Kawanaka, Kenji. (1996). Observation time and sampling intervals for measuring behavior and interactions of chimpanzees in the wild. *Primates*, Vol 37(2), Apr 1996. pp. 185-196.

Week 3: Social behavior (RWPZ) (Sep 19)

Skills III: Sampling methods and writing a lab report

Research Assignment: A comparison of different sampling methods for observing social behavior.

Writing Assignment: Research report. **Email report by 5 pm Sep 28.**

Reading Assignment for week 4:

1. Davey, G. (2006). Relationships between exhibit naturalism, animal visibility and visitor interest in a Chinese Zoo. *Applied Animal Behaviour Science*, 96, pp 93-102.

Week 4: Planning and conducting exhibit development and evaluation (RWPZ) (Sep 26)

Skills IV: Survey tools for visitor studies and new exhibit evaluation

Research Assignment: Conduct a visitor behavior and exhibit effectiveness study

Writing Assignment: Submit comments on visitor behavior and exhibit effectiveness study

Reading Assignments for week 5:

1. Davey, G. (2006a). Visitor behavior in zoos: A review. *Anthrozoös*, 19(1), 143-153.
2. Hosey, G. (2000). Zoo animals and their audiences: What is the visitor effect? *Animal Welfare*, 9, 343-357.
3. Margulis, S.W., Hoyos, C., Anderson, M., 2003. Effect of feline activity on zoo visitor interest. *Zoo Biol.* 22, 587-599.
4. Nimon, A.J., Dalziel, F.R., 1992. Cross-species interaction and communication: a study method applied to captive siamang (*Hylobates syndactylus*) and long-billed corella (*Cacatua tenuirostris*) contacts with humans. *Appl. Anim. Behav. Sci.* 33, 261-272.

Week 5: Exhibit use (RWPZ) (Oct 3)

Skills V: Using image analysis software

Research Assignment: Documenting exhibit use at RWPZ.

Writing Assignment: Research report. **Email report by 5 pm Oct 12.**

Reading Assignments for week 6:

1. Hunter, SA, Bay, MS, Martin, ML, Hatfield, JS (2002). Behavioral effects of environmental enrichment on Harbor seals (*Phoca vitulina concolor*) and Gray Seals (*Halichoerus grypus*). *Zoo Biology*, 21, 375-387.

2. Wells, D. (2004). A review of environmental enrichment for kenneled dogs, *Canis familiaris*. *Applied Animal Behaviour Science*, 85, 307-317.

Week 6: Measuring Impact of Enrichment (RWPZ) (Oct 10)

Environmental enrichment programs

Research assignment: Observe and record primate enrichment.

Writing Assignment: Enrichment research report. **Email report by 5 pm Oct 19.**

Week 7: Conducting exhibit evaluation continued (RWPZ) (Oct 17)

Research Assignment: Conduct a visitor behavior and exhibit effectiveness study

Writing Assignment: Submit comments on visitor behavior and exhibit effectiveness study

Reading Assignment for week 8:

1. Steele, MA., et al. (2008). Cache protection strategies of a scatter-hoarding rodent: Do tree squirrels engage in behavioural deception? *Animal Behaviour*, Vol 75(2). pp. 705-714.

Week 8: Designing a study (Metcalf 103) (Oct 24)

Skills VI: Experimental design

Skills VII: Setting up field cams

Research Assignment: Campus wildlife

Weeks 9-14: Final projects and field studies (RWPZ) (Oct 31-Dec 12)

Skills VIII: Writing proposals

Skills IX: Research talks

Research assignment: Develop proposal with preliminary data

Writing assignment: Research proposal. **Email final proposal by 5 pm on Dec 14.**