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Instructor

Los Angeles Zoo/UCLA
Biology 480.31, Fall 2022

OBSERVING ANIMALS: BEHAVIORAL STUDIES IN ZOOS

This is a practical course designed to train participants in techniques used in observational research, both in the zoo and in the wild. The first four lectures will be accompanied by assignments to be done outside of class which provide the experience of "field testing" the lecture material. Following the first four weeks of lecture, groups consisting of 3 to 6 participants are to carry out zoo research projects. Several projects will be described on October 11 and you may select among them. Each group will be trained at separate times on Saturday, October 15 (training times to be specified on October 11). Each participant is to collect 10 hours of valid data during daylight hours over the next 4 weeks and class time will be used to refine data collection procedures, check inter-observer reliability, and tabulate data. Project participants are to bring raw data collected to date to class on November 8 to specifically focus on data tabulation. In the following class you will be given Excel templates and shown how to enter the data into spreadsheets. All data needs to be collected, tabulated & entered into Excel and submitted to the instructor by end of class on Tuesday evening, November 22. The data will be statistically analyzed and returned to you on November 29 when you will interpret/discuss your findings. On December 6 you will prepare group presentations and group written reports for December 13. In short, there is lots of work to do, and lots to gain from it.

Students enrolled for credit/letter grade need to complete the initial 4 assignments and contribute to a group project. Students enrolled for credit/P/NP need only complete the initial 4 assignments. Handouts and examples of assignments accompany each lecture and assignments are to be done in the manner illustrated in the examples. Each assignment requires approximately one hour of observation time on zoo grounds as well as an additional hour of write-up/summary time. Participants enrolled for credit are to submit their work which will be reviewed and returned with helpful feedback. You are welcome to use the feedback to redo and resubmit assignments so that your final grade represents thorough learning and your best work. **Please review each assignment shown below as well as the handouts/example(s) given in class before embarking on assignments.**

Class is held Tuesday evenings from 7:30 to 10:00 at Los Angeles Zoo in classroom C of Discovery Education Center. There is also the option of attending evening classes remotely via Zoom.

Date	Lecture Topic	Assignment
Sep. 20 Tuesday	Introduction Why study animals in zoos Applied research Basic research Examples of successful projects Basic equipment and supplies Identifying Individuals Natural markings Artificial markings	Spend an hour at the zoo and attempt to identify all the individuals in each of several exhibits. Select one exhibit that contains 4 or more individuals of a species for which you have not been given an ID chart and construct an ID chart which enables the user to identify each of the individuals in the exhibit. The chart should be on a single page in matrix format with separate column headings including "name" as well as other categories which enable you to distinguish between individuals such as "size", "color", "scars", etc. Each individual should be listed/described in a separate row and their distinguishing characteristics given under the appropriate headings. Diagrams or sketches may be very helpful -- see ID handout. Note: you may not know the house name but can assign your own based on the individuals' characteristics; if your description is sufficiently detailed the grader will provide the house name as well as ZIMS # & birthdate.
Sep. 27 Tuesday	How to Observe Behavior Environmental Parameters Objectivity Reliability How to Describe Behavior Constructing Ethograms Units of behavior Functional categories	Observe a species in an exhibit for one hour. Focus on only one individual at a time. You may focus on one focal animal for the entire hour or observing each of the individuals in the exhibit for an equal number of minutes which should total one hour. For example, if there are 4 individuals, observe each for 15 minutes. Before starting, describe who you are observing, how long each individual is observed, and the social and physical setting. Then describe the focal animal's behavior in detail as it occurs. Afterward construct an preliminary ethogram, making a list of recognizable units of behavior you observed and giving a brief description/definition of each. Assign each behavior to a functional category, referring to the handout provided in class. Submit both the ethogram and the description of behavior on which it is based.
Oct. 4 Tuesday	Social Networks Territories Dominance hierarchies Social matrices	Observe a group of four or more recognizable individuals for at least 1 hour and record all social behavior. If you are able to record 20 or more wins/losses or 20 or more grooming or play interactions, work out dominance or grooming or play relationships and diagram the hierarchies

Date	Lecture Topic	Assignment
Oct. 4 Tuesday	Social Networks (continued)	used in the matrix as appropriate. Do be sure to define the behaviors used in this assessment. Submit your raw data and a social matrix that has been properly re-ordered to show the dominance hierarchy or grooming or play relationships with the observational data in the cells. In the case that you are unable to record 20 or more interactions which are needed to complete a meaningful matrix, work instead on the Ring Neck Dove material handed out in class – in this case create and submit two matrices, one based on win/losses that has been re-ordered to show relative dominance and one based on bow-coos that has been re-ordered to show the relative frequency of courtship initiation.
Oct. 11 Tuesday	Data Collection Focus of Observation Individual Group Sampling methods Count occurrences Checklists/one-zero sampling Checklists/one-zero sampling Continuous recording Scan sampling Continuous recording with time markers	Observe an individual of the species you will be observing in your group research project* for one hour using continuous recording with time markers at 1 min or 30 sec intervals; number each time marker (slash). After the data has been collected, tabulate it 2 different ways. First, count the activities preceding time markers and calculate the percent of time (to 2 decimal places) spent in various activities. Second, count the number of bouts of each activity (disregarding time markers) & calculate the frequencies of various activities. Please double space written material you submit and leave adequate margins so there is room enough for feedback to be given. Submit your raw data as well as both sets of tabulated data. Note: It is highly recommended that you observe the species that you will be observing in the group project you select.
	What is Worth Studying? Description of Group Research Projects* Sign Up for a Project	Studies require 10 hours of data collection by each participant, either as a team member contributing to a group project (which is strongly encouraged), or independently. Specific projects will be described and participants are to sign-up on Oct. 11 to be trained on one project on Oct. 15. Note: do this week's sampling assignment on the species you select for your group project. It may also be helpful if you video the species/exhibit and bring it to class on Oct. 18 so that other group members can review the footage when discussing fine points of the observational protocol.
Oct. 15 Saturday	Training on the Group Research project you are participating in	Training times for specific projects are to be given in class on Oct. 11 and each participant is to select only one. Each introductory training session will take approximately one hour.
Oct. 18 Oct. 25 Nov. 1	Tuesday meetings on October 18 & 25 as well as on November 1 will be of an informal nature where we meet in groups to discuss progress on projects. It is most important that all team members practice data collection and come to the Oct.18 meeting so that we can "compare notes" in formulating the specific research protocol and be sure that each team member is using the same behavioral definitions. Are refinements or clarifications in the protocol needed? On November 1 we will be focusing on data tabulation and November 22 will be the last possible day to collect, tabulate and enter data.	
Nov. 8 Tuesday	Putting together project presentations/group reports. Data tabulation.	
Nov. 15 Tuesday	Entering individually tabulated data into electronic spreadsheets - bring your tabulated data to enter.	
Nov. 22 Tuesday	Continue entering tabulated data. One member of your group needs to vertically paste every member's spreadsheet onto a single spreadsheet and submit it to Dr. Cox by the end of class tonight.	
Nov. 29 Tuesday	Review and interpret the statistical results of your studies	
Dec. 6 Tuesday	Prepare research presentation as well as written report	
Dec. 13 Tuesday	Presentation of Research Projects – All invited to attend	

FOR FURTHER INFORMATION:
Contact ZOO RESEARCH at (323) 644-4236 or
Cathleen Cox at (323) 644-4204/Cathleen.Cox@lacity.org

TO REGISTER: on or after July 30
Go to www.uclaextension.edu or
UCLA EXTENSION (310) 825-9971/(818) 784-7006