Psychology 3S03-Animal Behaviour Laboratory

**Time:** Monday 11:30-14:20  
September 8th - December 1st 2003

**Location:** Psychology Dept Room 116

**Instructor:** Dr. Sigal Balshine  
**Contact Info:**  
Office - PC 304, Ext - 23024  
Email - sigal@mcmaster.ca  
Office Hours – Mondays 14:30-16:30  
Web page: www.science.mcmaster.ca/Psychology/psych3s3sbe

**Course description and objectives:** In this course you will have the opportunity to have hands on experience with animals, design and conduct experiments as well as analyse data. The course is open to any student who has successfully completed either Psychology 2TT3 or Psychology 3R03. In this course, while developing an appreciation for animal behaviour, you will have an opportunity to learn observational techniques, apply them to test hypotheses, analyse data, interpret the results, and communicate your findings.

The organization of the course is as follows. The term will be divided into two 6-week segments. During the first 6-week segment, we will meet as a class and review topics such as observational techniques, ethics, statistics, data collection and presentation of research findings in both oral and written form. As well, we will be conducting structured laboratory projects each week and analysing the class data in lab reports for the following week. Each student will write four BRIEF (1-3 page) lab reports describing what was done in practicals, summarizing the data and discussing the results. These reports will be graded (see below).

In the second part of the term, the class will be divided into working groups of 4 students and each group will work on a different project for 6 weeks. During this part of the course the students will be expected to do most of their work without direct supervision. You will be given access 7 days a week, 24 hours a day to the animals and facilities for the research projects you design. The TAs and the instructor will be available to you as resource persons and should be consulted on a regular basis during the development, running and analysis of the experiments.
Assignments and Evaluation: Final grades will be based on marks from lab reports (based on the class practicals), and on a group projects (a written and oral presentation, workload component for each). There will be no final exam in this course.

Lab Reports: (10% for each lab report) We will run through four practicals and one statistics tutorial together as a class. You will be expected to write up a lab report for each practical based on the data collected and analysed by the class. In order to develop skills in scientific report writing, these lab reports should include a short introduction, a description of the methods used, a section summarising the results, and a short discussion of the findings. Please be concise; two to three pages of text are plenty. Your best two marks will be used to calculate your lab report grade. You can choose to write all four lab reports and get feedback from us or only write two. I recommend that you write all four and get the feedback.

Projects: You will be given the opportunity to choose a project from among those offered (see below) and work with other students in a group (4 people per group) to collect and analyse the data. The instructor must approve outlines of the proposed methodology for each project before data collection begins.

Projects - (80% of final mark of which 20% for the written report, 20% for the oral presentation, and 40% for work). You will have six weeks to complete the projects. At the end of the 6th week, each group will give an oral presentation to the class (20 minutes each with 5 minutes for questions). Like the practical lab reports, the oral presentation should communicate the purpose of the study, the methodology chosen, your findings and interpretations. In addition, an oral presentation needs to engage the viewer's attention without compromising the viewer's understanding when space and time are limited. Group members must participate equally in the presentations. Each person will be required to submit a written scientific
research paper based on the data collected. The papers for each member of the group will only be similar with respect to the methods and findings. The papers will vary among group members as people vary in their interpretations of the findings, their criticisms of the study, in suggestions for future work and in their selection of relevant literature. The written report should introduce the question, describe the methodology, summarise the results and include a discussion of the results.

Each student will be required to grade his or her own performance and the performance of other members of his or her group on their work on the projects. Performance in data collection will count for 40% of the final grade. The TAs and the instructor will also grade the students’ project performance. The final grade for work on the project will represent a combination of these marks from the instructor, TAs and students.

Neglect or intentional mistreatment of animals will result in a grade of F in the course.

Schedule:

<table>
<thead>
<tr>
<th>Dates</th>
<th>Activity</th>
<th>Class Meeting</th>
<th>Assignments due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 8</td>
<td>Intro+Ethics+Practical 1 (Mate Choice Study)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sept 15</td>
<td>Practical 2 (Goose Foraging Study)</td>
<td>Yes</td>
<td>Practical 1 lab report due</td>
</tr>
<tr>
<td>Sept 22</td>
<td>Practical 3 (Statistical + Graphics Tutorial)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sept 29</td>
<td>Practical 4 (Chickadee and Risk Exp)</td>
<td>Yes</td>
<td>Practical 2 lab report due</td>
</tr>
<tr>
<td>Oct 6</td>
<td>Practical 5 (Danio Grouping Exp)</td>
<td>Yes</td>
<td>Practical 4 lab report due</td>
</tr>
<tr>
<td>Oct 13</td>
<td>Thanksgiving</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
Possible Topics for Group Projects:

1. Adaptive Foraging Behaviour:
   Two projects will be offered on this topic using different species. If you choose this project topic, you will be able to explore how various animals vary their behaviour in response to costs and benefits of foraging.

2. Sexual Selection
   Four projects will be offered on this topic using different species. If you choose this topic you could examine traits that affect male-male competition or female choice. Instead you might want to examine how animals might use risk taking or cooperative behaviour to signal quality.

Please let the instructor know what project you are most interested in working on.