**COURSE SYLLABUS**

**APBI 313:** Experimental analysis of animal behaviour

University of British Columbia

Applied Animal Biology, Faculty of Land and Food Systems

**ACKNOWLEDGEMENT**

I want to acknowledge that UBC’s Point Grey campus and endowment lands are the traditional, ancestral, unceded territory of the Musqueam. The hən̓q̓əmin̓əm̓ *(h-elk-kwah-MEEN-um)* speaking Musqueam people have, and have always had, a distinct understanding of animals that has been passed from one generation to the next and we are grateful for the opportunity to learn and work on this land.

**COURSE INFORMATION**

**Course Name:** Experimental analysis of animal behaviour

**Course Code Number:** APBI 313

**Class Time & Place:** Tuesday and Thursday 9:30-11:00am West Mall Swing Space 105

**COURSE PREREQUISITES**

Prerequisites: Third-year or above standing. One of PSYC100 or PSYC101 recommended.

**COURSE COREQUISITES**

None.

**CONTACT**

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| Instructors: | Alexandra Protopopova |
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| TA Name: | Bailey Eagan |
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**COURSE OBJECTIVES**

Students in animal welfare require knowledge about what guides the behaviour of individual animals. In this course, we will cover the proximate mechanisms behind animal behaviour, with a focus on motivation and learning within the larger discipline of Experimental Analysis of Behaviour. Using case studies, we will cover complex concepts within Pavlovian and operant control of behaviour of individual animals as well as the ways in which various behavioural principles explain complexity in behaviour (i.e., animal cognition) and contribute to our understanding of animal welfare.

**COURSE FORMAT/ STRUCTURE**

The class will meet twice per week synchronously. Classes will begin with a case study of either a common behavioural problem encountered by handlers or an interesting phenomenon in animal cognition. The case study will serve as the basis of discussion and lecture on the specified topic. The lecture portion of each class will focus on presenting unifying principles and theories in animal learning and introduce the students to various topics in the field of experimental analysis of animal behaviour. Some classes will have a short probe, which will test the student’s understanding of the topic of the lecture from the previous class and/or the required reading.

**LEARNING MATERIALS/ REQUIRED READING**

Learning materials will include a textbook (Behavior Analysis and Learning: A Biobehavioural Approach. (2017) W. David Peirce and Carl D. Cheney, Sixth Edition (ISBN-10 1138898589); estimated price $200 new; ***Option****:* Behavior Analysis and Learning. (2004) W. David Peirce and Carl D. Cheney, Third Edition (ISBN 0-8058-4489-9); estimated price $10 used; **free copy available from instructor)**, assigned readings provided by the instructor prior to some classes as indicated on the schedule, comments and feedback on assignments, and lecture slides.

**COURSE SCHEDULE/ SCHEDULE OF TOPICS**

Please note that dates and topics may be updated as the term progresses. If this happens, announcements will be made in class and online.

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Case Study** | **Lecture Topic** | **Reading** |
| Sep 8 | Do animals have free will? | Introduction and philosophy | Ch.1 |
| Sep 13  Sep 15 | Self-injurious behavior in a baboon | Single-subject research designs;  Reflex relations | Ch. 2 |
| Sep 20  Sept 22 | Shelter cat behaviour modification program | Pavlovian conditioning; More on Pavlovian conditioning; | Ch. 3 |
| Sep 27 | Racoons who wash coins | Biological context of conditioning | Ch. 14 |
| Sep 29 |  | EXAM CASE STUDY 1 |  |
| Oct 4  Oct 6 | Cows peeing in toilets | Operant behaviour;  Extinction and schedules of reinforcement | Ch. 4 |
| Oct 11  Oct 13 | Animal personality | Motivating Operations; Negative reinforcement | Ch. 5 |
| Oct 18  Oct 20 | Dogs and shock collars | Punishment;  Aversive control | Ch. 6 |
| Oct 25 |  | EXAM CASE STUDY 2 |  |
| Oct 27  Nov 1 | Optimism/ Pessimism | Stimulus relations;  More on stimulus control | Ch. 8 |
| Nov 3 | African Grey parrot “Alex” counting | Complex stimulus control | Ch. 8 |
| Nov 8  No class Nov 10  Nov 15 | Capuchins making bad economic decisions | Conditioned reinforcement;  More on conditioned reinforcement | Ch. 10 |
| Nov 17 |  | EXAM CASE STUDY 3 |  |
| Nov 22  Nov 24 | Is consent and choice important? | Choice and preference; Impulsivity | Ch. 9  Ch. 11 |
| Nov 29 | Speaking apes | Stimulus equivalence | Ch. 12 |
| Dec 1 | Guest Lecture |  |  |
| Dec 6 |  | EXAM CASE STUDY 4 |  |

**LEARNING OUTCOMES**

At the end of this course, the student will be able to:

1. Analyze how basic learning principles result in complex animal behaviour as evidenced by class participation in discussion, in-class probes, case studies, and online quizzes;
2. Effectively integrate ideas from the lecture material, book chapters, and assigned journal articles to compose an evaluation of the determinants of animal behaviour case studies.

**LEARNING ACTIVITIES**

You will become acquainted with the individual-subject research methods used in the scientific study of proximate causes of behaviour and the basic theories and principles of how and why animals do what they do. The key activities in the course are (1) learning complex principles of animal learning and motivation through data from experimental studies with animals, (2) communicating an understanding of these principles through in-person discussion, in-class probes, written case exams submitted online, and online quizzes.

**ASSESSMENT OF LEARNING, EVALUATION, AND GRADING**

In-Class Probes- 20%

There will be 14 probes conducted during class, each worth 2 points. Part of the purpose of these probes is to provide credit for class participation and encourage class attendance; therefore, which classes they will be given on will not be announced in advance. You will typically receive the first point for turning in any attempt at answering the probe question, and the next point for a correct response. Probes will range from requiring one word to a few sentences to complete, and will cover the assigned readings for and/or the material presented during the class on which they are administered.

Online Quizzes- 30%

There will be 12 online quizzes, each worth 5 points. The best 6 out of 12 will be used for the final mark. An online quiz will be due on that day, before class begins. The online quiz will include multiple-choice questions on the material that will be needed when discussing and answering questions about the case studies. The online quizzes are intended to help you identify the information that you need to review before class.

Exam Case Studies- 50%

Each class will begin with discussion of a specific case study. At four times during the semester, instead of an exam, the instructor will present a case study, similar to a one discussed in class and construct questions. These questions will form the exams. There will be four such written case studies throughout the semester, each worth 12.5 points. The case studies will consist of short and long answer questions, in which the students will utilize their knowledge of behaviour principles to provide an analysis of the situation.

Each case study will focus primarily on the information covered since the previous case study; however, as the subject matter covered by the class is cumulative, doing well on later case studies will require mastery of the key concepts presented since the beginning of the semester.

Participation

Student are expected to come to class having read all required readings and prepared to discuss the topic. Only respectful and constructive discussion will be tolerated.

**Grades**

|  |  |  |
| --- | --- | --- |
|  | **Points** | **Percentage** |
| In-class probes (best 10 out of 14, 2 marks each) | 20 | 20% |
| Online quizzes (best 6 out of 12, 5 marks each) | 30 | 30% |
| Exam case-studies (4, 12.5 marks each) | 50 | 50% |
| **Total** | **100** | **100%** |

**UNIVERSITY POLICIES**

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available on the [UBC Senate website](https://senate.ubc.ca/policies-resources-support-student-success).

**ACADEMIC INTEGRITY**

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President’s Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences. A more detailed description of academic integrity, including the University’s policies and procedures, may be found in the Academic Calendar.

**MENTAL HEALTH SUPPORT**

[Nicole Adoranti](https://www.landfood.ubc.ca/mental-health-and-wellbeing/#:~:text=Students%20can%20book%20an%20appointment,an%20LFS%20or%20Forestry%20student.) is a Canadian Certified Counsellor who is “embedded” in the Faculties of Forestry and Land and Food Systems and is specialized in helping Forestry and LFS students.. Students can book an appointment to speak with Nicole about any concerns that might be impacting their personal, academic, or professional lives. To book a counselling session with Nicole, please contact Counselling Services directly at **604-822-3811** and identify yourself as either an LFS or Forestry student. Counselling Services support will be able to guide you through booking directly with Nicole, filling out the intake forms, and answering any questions you may have about the process. Nicole’s office is located at the Forestry Students Services Office, FSC 2609A and her office hours are: Monday- Friday 8:30-4:30.