

PSYC 52: ANIMAL LEARNING

Course Description and Goals

This course is designed to provide you with a thorough understanding of the principles that govern learning. Many of these principles have originated from studies of classical and operant conditioning in non-human animals. Thus, we will begin by covering the fundamentals of classical and operant conditioning as studied in a variety of species and then turn to a discussion of modern theories of learning. We will then explore how these principles and theories of learning directly influence diverse processes such as memory, attention, extinction, categorization, and time keeping. In doing so we will consider how well different theories of learning apply to real life and inform our understanding of motivated behavior and some forms of mental illness (Pre-requisites: PSYC 1 or PSYC 6).

Instructor

David J. Bucci, PhD
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Office hours: Wed 3-4 pm and by appointment

Class meetings

Tuesdays & Thursdays: 10-11:50am (X-hour Wed 3-3:50pm)

Note that at least one class meeting is already scheduled during the X-hour and others may be scheduled at the instructor's discretion based on the pace of the course, to use as review sessions, etc. Thus, please **do not** schedule other activities during the X-hour.

Course Format

The primary purpose of the class meetings will be to reinforce key concepts and engage in discussion. In other words, I do not plan to simply reiterate the material included in the readings. Therefore, it is **absolutely essential** to read the assigned material before coming to class because the points discussed during the class period will assume a certain amount of familiarity with the topic. In addition, part of your grade will be based on regular participation so you must be willing to ask questions and engage in discussion with me and your classmates. This is important to help reinforce concepts, but also to bring to my attention anything that you did not understand in the readings. To this end, thought questions will be due each week based on the readings (see below).

Required readings and course material

Learning and Behavior: A Contemporary Synthesis by Mark Bouton (Sinauer Associates)

Routes of Learning and Evaluation

I strongly believe that people differ in the ways that they learn. For example, some people learn best by listening to lectures, others by doing practical exercises or writing, and others through discussions. As a result, we will use several different mechanisms, or "routes," through which you will develop your knowledge of the course material (i.e., lecture, discussion, reading, and writing). Each of these routes will also provide part of the basis for your grade in the course. In addition to making this a more productive and interesting way to learn, my hope is that at least one of these routes will tap into the way you learn best!

Grading: Final grades will be calculated based on a maximum total score of 500 points. The value of the exams, papers, thought questions, and class participation are indicated below. Final grading will be as follows: A = 465-500 points; A- = 449-464; B+ = 433-448; B = 417-432; B- = 401-416; C+ = 385-400; C = 369-384; C- = 353-368; D+ = 337-352; D = 321-336; D- = 305 – 320; E<305.

Mid-term and Final Exams (125 points each): The mid-term exam and final exam will test your comprehension of the concepts covered during the course. The midterm is scheduled during a regular class meeting and will cover material from the first half of the course. The final exam is during the scheduled finals

week and will cover material from the second half of the course (ie, NOT a cumulative final). Exams will include a mix of multiple choice and short answer items. The questions are designed to test your ability to use the information discussed in class and in the text. In other words, the exams *will not* be based simply on memorizing and recalling facts. Sample questions will be presented before the first exam to show you what I mean by this. Please note that PBS dept policy is that exams must be kept on file for 1 year. Thus, I cannot simply hand back your exams for good. Instead, you will have a chance to review your exam with me during the x-hours on either May 6 or May 13 if you wish to. Please note that neither exam can be taken early; in particular, having multiple exams in the same week or on the same day during the term will not be considered grounds for taking the exam on a different day.

Research Thought Papers (75 points each): There will be two short Research Thought Papers (RTPs) due during the term (2 pages long, 1.5 line spacing, 11 point font). The point of the RTPs is to give you an opportunity to go beyond the assigned reading and explore any course topic that is of particular interest to you. They also provide you with a chance to demonstrate your writing ability and to concisely describe what you have learned by connecting an original research study to the material covered in the course.

Thought Questions (45 points): At the start of class each Tuesday (except the first one), you will be required to submit 3 – 4 Thought Questions (TQs) based on the reading assigned for that week. The questions you pose can be on anything related to the reading. Ideally, they should reflect your comprehension of the material by suggesting ideas for future experiments, but you might also use them as an opportunity to ask a question about something that you found confusing while doing the reading. I will use these questions to guide discussion on that week's topic. The questions must be typed and handed in (hard copy) at the start of class.

Participation (55 points): It is essential that you regularly participate by asking questions and contributing to class discussion.

Policies

Honor Code: You are expected to strictly adhere to the Dartmouth Academic Honor Principle. As described in the Student Handbook, *fundamental to the principle of independent learning is the requirement of honesty and integrity in the performance of academic assignments, both in the classroom and outside. Dartmouth operates on the principle of academic honor. Students who submit work that is not their own or who commit other acts of academic dishonesty will forfeit the opportunity to continue at Dartmouth.* By enrolling in this course you are indicating that you accept and will abide by the Honor Code. If you have any questions or concerns regarding this policy during the course, please contact Professor Bucci.

Missed exams: A student will only be excused from an exam by permission of the Instructor and on the basis of a written note from a dean, doctor, or supervisor of official college-sponsored events being held off-campus that requires a student's absence. If excused, a make-up exam must be taken as soon as possible (usually within 1 day of the originally-scheduled exam).

Students with disabilities: Students with disabilities, including "invisible" disabilities such as chronic illnesses and learning disabilities, are encourage to arrange for accommodations that might be helpful to them. Please meet with Professor Bucci as soon as possible (preferably during the first week of the class) to discuss possible accommodations. All discussions will be help in the strictest confidence, although the Academic Skills Center may be consulted to verify documentation of the disability.

Religious Observance: Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with Professor Bucci before the end of the second week of the term to discuss appropriate accommodations.

Course Schedule

Date	Topic	Reading	Assignments due
Week 1 Tu 3/31 & Th 4/2	Introduction to Learning	Chap 1	
Week 2 Tu 4/7 & Th 4/9	Adaptation	Chapter 2	4/7: TQs on Chap 2
Week 3 Tu 4/14 & Th 4/16	Basics of Conditioning	Chapter 3	4/14: TQs on Chap 3
Week 4 Tu 4/21 & Th 4/23	Conditioning Theories and Attention	Chapter 4	4/21: TQs on Chap 4 4/23: RTP #1
Week 5 Tu 4/28 & Wed 4/29 Thurs 4/30	Memory and Modulation MIDTERM EXAM	Chapter 5	4/28: TQs on Chap 5
Week 6 Tu 5/5 & Th 5/7	Generality of Conditioning	Chapter 6	5/5: TQs on Chap 6
Week 7 Tu 5/12 & Th 5/14	Theories of Reinforcement	Chapter 7	5/12: TQs on Chap 7
Week 8 Tu 5/19 & 5/21	Instrumental Action	Chapter 8	5/19: TQs on Chap 8 5/21: RTP #2
Week 9 Tu 5/26 & Th 5/28	Motivational States	Chapter 9	5/26: TQs on Chap 9
Week 10 Tu 6/2	Avoidance Learning	Chapter 10	6/2: TQs on Chap 10
Mon 6/8 8:00am	FINAL EXAM		