

Conditioning and Learning-60553
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Fall Semester, 2009

Complete Outline **(18/Sep/2009)**

Aug/25-27. No lectures, I will be out of town on a meeting.

Sep/1-3: Defining, classifying, and illustrating conditioning phenomena.

- Crawford & Domjan (1993). Sexual approach conditioning: Omission contingency tests. *Anim Learn Behav*, 21, 42-50.
- Holland & Rescorla (1975). The effects of two ways of devaluing the unconditioned stimulus after first- and second-order appetitive conditioning. *J Exp Psychol: Anim Behav Proc*, 1, 355-63.

Sep/8: Quiz # 1 (5-10 min)

Sep/8-10. Acquisition.

- Miller (1982). Effects of intertrial reinstatement of training stimuli on complex maze learning in rats: Evidence that "acquisition" curves reflect more than acquisition. *J Exp Psychol: Anim Behav Proc*, 8, 86-109.
- Rescorla (1988). Pavlovian conditioning: It's not what you think it is. *Amer Psychol*, 43, 151-60.
- Holland (2008). Cognitive versus stimulus-response theories of learning. *Learn Behav*, 36, 227-41.

Sep/15: Quiz # 2 (5-10 min)

Sep/15-17. Compound conditioning.

- Kamin (1969). Predictability, surprise, attention, and conditioning. In B. A. Campbell & R. M. Church (Eds.), *Punishment and aversive behavior* (pp. 279-296). New York: Appleton-Century-Crofts.
- Denniston, Savastano, & Blaisdell (2003). Cue competition as a retrieval deficit. *Learn Motiv*, 34, 1-31. [Only Experiment 1, plus introduction and discussion.]
- Thein, Westbrook, & Harris (2008). How the associative strengths of stimuli combine in compound: Summation and overshadowing. *J Exp Psychol: Anim Behav Proc*, 34, 155-66.

Sep/22: Quiz # 3 (5-10 min)

Sep/17, 5:00 pm, Sep/22, 2:00 pm: Preexposure effects

- Lubow (2009). Conditioned taste aversion and latent inhibition: A review. In Reilly & Schachtman (Eds.), *Conditioned taste aversion* (pp. 37-57). Oxford, UK: Oxford University Press.

Sep/24: Quiz # 4 (5-10 min)

Sep/22, 5:00 pm, Sep/24, 2:00 pm. Extinction.

- Delamater (2004). Experimental extinction in Pavlovian conditioning: Behavioural and neuroscience perspectives. *Quart J Exp Psychol*, 57B, 97-132.

Sep/29: Quiz # 5 (5-10 min)

Sep/29. Student presentations, Ia

- M Butterfield, Pavlov's (1927) contributions: lectures I-II.
- S Campbell, Pavlov's (1927) contributions: lectures VII-VIII.
- P Ellis, Thorndike's (1898) contributions (whole paper).

Oct/1. Student presentations, Ib

- M Kahn, Conditioned taste aversion and the generality of learning principles.
- T Lepper, Blocking and overshadowing in animals.
- C Rodeheffer, Sensory preconditioning in animals.

Oct/6-8. Inhibitory conditioning.

- Papini & Bitterman (1993). The two-test strategy in the study of inhibitory conditioning. *J Exp Psychol: Anim Behav Proc*, 19, 342-52.

Oct/15: Quiz # 6 (5-10 min)**Oct/15-22. Fear conditioning.**

- Bouton & Bolles (1980). Conditioned fear assessed by freezing and by the suppression of three different baselines. *Anim Learn Behav*, 8, 429-34.
- Takahashi et al. (2008) Predator odor fear conditioning: current perspectives and new directions. *Neurosci Biobehav Rev*, 32, 1218-27.
- McNally (in press). The roles of endogeneous opioids in fear learning. *Int J Comp Psychol*.

Oct/20. NO CLASS (SfN meeting)**Oct/27: Quiz # 7 (5-10 min).****Oct/27-29. Avoidance learning.**

- Ovemier & Lawry (1979). Pavlovian conditioning and the mediation of behavior. *Psychol Learn Motiv*, 13, 1-55.

Nov/3: Quiz # 8 (5-10 min)**Nov/3-5. Frustration.**

- Amsel (1992). *Frustration theory: An analysis of dispositional learning and memory*. Cambridge, UK: Cambridge University Press (Chapters 2, 3, and 4).

Nov/10: Quiz # 9 (5-10 min)**Nov/10-12. Spatial learning.**

- Chamizo (2003). Acquisition of knowledge about spatial location: Assessing the generality of the mechanism of learning. *Quart J Exp Psychol*, 56B, 102-13.
- Pearce, Graham, & Good (2006). Potentiation, overshadowing, and blocking of spatial learning based on the shape of the environment. *J Exp Psychol: Anim Behav Proc*, 32, 201-14.

Nov/17: Quiz # 10 (5-10 min)

Nov/17-24. Comparative analysis of learning.

- Bitterman (1975). The comparative analysis of learning. *Science*, 188, 699-709.
- Papini (2002). Pattern and process in the evolution of learning. *Psychol Rev*, 109, 186-201.

Nov/26: Thanksgiving break**Dec/1: Quiz # 11 (5-10 min)****Dec/3: Student presentations, IIa**

Christopher Rodeheffer, Demonstrations of inhibitory conditioning since 1993.
Tracy Lepper, Animal models of anxiety.
Marielle Kahn, Shock predictability, shock controllability, and ulcers.

Dec/8: Student presentations, IIb

Preston Ellis, Stress hormones and incentive contrast.
Sara Campbell, Role of the hippocampus in spatial memory in rats: Recent research.
Max Butterfield, Primate cognition: perspective taking and theory of mind.

FINAL EXAM: 3:00 p.m., Thursday, December 17, 2009.

The material for the final will be all the relevant class materials plus a selection of the readings studied during the semester. There will be no new readings for the final. The list of readings will be provided about a month before the final.

GUIDELINES FOR ORAL PRESENTATIONS**Preparation**

- (1) Select 2-4 articles relevant to your topic (not less than two articles!).
- (2) Study them in detail.
- (3) Select enough material to present in 20 min.
- (4) As a rule of thumb, use 1 slide/2 minutes of presentation (thus, 10 slides should be enough).
- (5) Emphasize the important points, avoiding minutiae (e.g., number of animals used, where they were purchased, etc.).
- (6) Be sure to have the following sections:
 - a. Introduction: problem, empirical evidence, main theoretical issue.
 - b. Specific evidence introduced by your selected articles
 - c. Discussion of the relevance of the evidence

- (7) Use drawings, pictures, videos, simulations, figures, and tables. Avoid excessive narrative in your PPT. Narrative should be mostly in bullet format (i.e., brief, to the point, and to be completed orally). Avoid giving the impression that you are reading your own presentation, as if you had not studied the material.

Presentation

Your presentation must be prepared in PPT (or equivalent). Rehearse it in advance to be sure that your presentation will take no more than 20 minutes. Be ready to answer questions from anybody in the audience. There will be 10 minutes for Q&A.

After your presentation, you must forward your PPT file to me so I can use it to further evaluate your presentation.

It may be a good idea to check with me whether the papers you have chosen are appropriate. To have a good grade in your presentation, you must cover papers that are clearly related to conditioning and learning principles as taught during this course. Let me know out of class if you have any questions about your topic.

Grading

Your final grade in this course will be determined by three sources:

- (1) **Short quizzes (35% of your final grade).** Quizzes will be administered on most Tuesdays after the first week. Just 2 or 3 questions about the material reviewed during the previous week. Questions will be specific (not vague or general) and short answers will be required. You must study the material in detail. Each question will be worth a maximum of 1 point. In any given question, no answer will result in a zero score; a completely wrong answer will result in a 0.5 score. Points will be added to obtain a final quiz score. I posted some sample questions so you can assess the degree of detail and variety of questions.
- (2) **Class presentations (35% of your final grade).** I will evaluate your presentation according to the following categories:
 - a. Research problem (20%)
 - b. Research design (20%)
 - c. Results (20%)
 - d. Larger implications, theoretical and/or practical (20%)
 - e. Answers to questions (20%)
- (3) **Final exam (30% of your final grade).** This will be a comprehensive exam with essay questions about the issues studied during the semester. The readings and class materials to be included for the final will be specified in advance. You will be given 5 questions from which you will choose 3 to answer for the exam.

Your final grade will translate into a letter grade according to the following rule:

- A → 85-100
- B → 75-84
- C → 70-74
- D → 60-69
- F → less than 60

Some Basic Rules

I expect you to find the articles on your own using available resources. However, if there is a problem with a given article, please let me know and I will provide you with a copy. Be sure to carefully plan your readings for the quizzes.

Missing quizzes: A special make-up session will be arranged out of class for those who cannot be present during a quiz.

I will lecture in the classic style. However, I also expect class participation. I may direct questions at each of you intended to promote reflection on some issue and to help you articulate a problem in your own words.

Class participation and grading are not related. Thus, you should feel free to express doubts and problems with the material or topic, without the concern of suffering in your final grade.

You may bring your notebook computer to class. However, all computers must be turned off during quizzes and exams.

This is a core course. I think that the content of *Conditioning and Learning* is crucial to your education as a future PhD in Psychology. Please be sure to allocate sufficient time to understanding the topics. "Sufficient time allocation" must be defined in terms of your quiz grades, rather than in terms of your previous experience in college courses. Even if you think you are "studying a lot," a poor quiz grade should indicate to you that you need to study even more or change your studying habits.

One main problem with this class is that the field of learning has developed its own vocabulary and achieved a considerable degree of sophistication. If you are completely unfamiliar with the field, it may be a good idea to keep a learning manual available for consultation. There are many appropriate learning textbooks. The one published by M. Domjan, *Principles of Learning and Behavior*, is accessible and comprehensive.

Let me know if you have trouble with a reading, a lecture, or a topic.