

**LEARNING & MEMORY (PSY 372-01)**  
**Spring, 2013**  
**208 Dansby Hall**  
**T, TH: 100p-215p**

**Instructor** Tina R. Chang, Ph.D.  
**Office** 120A Wheeler Hall  
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**Office Hours** W: 1130a-1230p; T, TH: 215p-315p

**Required Readings**

- 1) Domjan, M. (2009). *The Principles of Learning and Behavior: Active Learning Edition*. Sixth Edition. Belmont, CA: Wadsworth Publishing;
- 2) Pryor, K. (2002). *Don't Shoot the Dog!: The New Art of Teaching and Training*. Third Edition. Ringpress Books Ltd.
- 3) Selected current and classic articles provided by the instructor.\*

**Course Description**

This course (along with the laboratory) is designed to provide an empirical and theoretical examination of the processes of learning and memory.

**Course Objectives**

With the successful completion of this course (and the laboratory), students will be able to:

- Explain the historical influences on the scientific study of learning and cognition;
- Differentiate between Pavlovian conditioning and operant conditioning;
- Describe principles of memory, its models and theories related to remembering and forgetting and general adaptation;
- Explain species-typical behavior in terms of biological predispositions.
- Describe general principles of learning as they relate to human and non-human adaptation;
- Differentiate between central and peripheral nervous system functions in learning, memory, cognition and language;
- Describe the role of biology in learning and cognition;
- Interpret species learning strategies in terms of evolutionary adaptation and behavioral plasticity.

**Course Format**

The course consists of lectures and discussion. You are expected to complete the assigned readings *before* each class and to contribute to class discussion. You are also encouraged to come to office hours or to schedule an appointment to discuss any of the course material.

### **Course Requirements**

Exams: There will be 2 exams (20% each) and a final (30%). All exams are cumulative and will consist of multiple-choice, short answer, and essay questions. Article critiques with presentation/debate (30%): You will write 10 critiques of select articles to be presented by you in groups and discussed by the class.

### **Attendance/Participation**

You are expected to attend class. Excessive absences, tardiness, and/or disruptive behavior in class will be reflected in your final grade. If you plan on being absent from class, please let me know ahead of time in order to avoid missing announcements and/or changes in due dates, etc. You are responsible for all class announcements whether you were in class or not. If you are unsure of due dates, assignments, policy, or any other issues related to class, make sure to talk directly with me. Do not rely on your classmates for information.

### **Academic Integrity**

*All work in this course must be your own.* Any assignments or exams for which you present the work of others as your own will receive a failing grade. However, please do feel free to study and discuss the material with each other and with me. If you do not understand something, please come ask me.

### **Accommodations**

Students who require accommodations for physical and/or learning challenges should present appropriate documentation before the end of the second week of class. Students must also make an individual appointment to discuss the accommodations.

### **Grading Scale**

A	94-above	B	83-86	C	73-76	D	63-66
A-	90-93	B-	80-82	C-	70-72	D-	60-62
B+	87-89	C+	77-79	D+	67-69	F	59-below

## **\*Reading List**

- Breland, Keller & Breland, Marian. (1961). The misbehavior of organisms. *American Psychologist*, 16, 681-684.
- Ebbinghaus, Hermann. (1885/1913). Memory: A contribution to experimental psychology (Henry A. Ruger & Clara E. Bussenius, Trans.).
- Harlow, Harry F. (1958). The nature of love. *American Psychologist*, 13, 573-685.
- Healy, S.D., Bacon, I.E., Haggis, O., Harris, A.P., Kelley, L.A. (2009). Explanations for variation in cognitive ability: Behavioural ecology meets comparative cognition. *Behavioural Processes*, 80(3), 288-294.
- Hediger, H. Wild Animals in Captivity. New York, NY: Dover, 1964.
- Hull, Clark L. (1934a). The concept of the habit-family hierarchy and maze learning: Part I. *Psychological Review*, 41, 33-54.
- Hull, Clark L. (1934b). The concept of the habit-family hierarchy and maze learning: Part II. *Psychological Review*, 41, 134-152.
- Pavlov, Ivan P. (1927). *Conditioned reflexes: An investigation of the physiological activity of the cerebral cortex* (G. V. Anrep, Trans.).
- Shettleworth, S.J. (2003). Memory and hippocampal specialization in food-storing birds: Challenges for research on comparative cognition. *Brain, Behavior and Evolution*, 62, 108-116.
- Skinner, B. F. (1948). 'Superstition' in the pigeon. *Journal of Experimental Psychology*, 38, 168-172.
- Tolman, Edward, C. (1948). Cognitive maps in rats and men. *Psychological Review*, 55(4), 189-208.
- Watson, John B. & Rayner, Rosalie. (1920). Conditioned emotional reactions. *Journal of Experimental Psychology*, 3, 1-14.
- Yerkes, Robert M. & Dodson, John D. (1908). The relation of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology*, 18, 459-482.

**Course Schedule (Subject to change)**

<b>Week</b>	<b>Topic</b>	<b>Reading/Assignments</b>
1	Course Introduction	
2	What is <i>learning</i> ?	Chapter 1, Assignment due.
3	<p><i>“Instincts”</i></p> <p><b>Discussion:</b> Breland, K. &amp; Breland, M. (1961), <i>The misbehavior of organisms</i>.</p> <p><b>Discussion:</b> Harlow, H. F. (1958). The nature of love.</p>	Chapter 2; Article critiques due
4	<p>Habituation &amp; Sensitization</p> <p><b>Discussion:</b> Yerkes, R.M. &amp; Dodson, J.D. (1908). The relation of strength of stimulus to rapidity of habit-formation.</p>	Article critique due
5	<p>Habituation &amp; Sensitization (cont'd)</p> <p><b>Exam I</b></p>	
6	<p>Classical conditioning: What is it?</p> <p><b>Discussion:</b> (1) Watson, J.B. &amp; Reynor, R. (1920), <i>Conditioned emotional reactions</i>;</p> <p>(2) Pavlov, I.P. (1927), <i>Conditioned Reflexes</i> (selected lectures).</p>	Chapter 3; Article critique due
7	Classical conditioning in everyday life.	Chapter 4
8	<p>Operant Conditioning: What is it?</p> <p><b>Discussion:</b> Skinner, B.F. (1948), <i>Superstition in the pigeon</i>.</p>	Chapter 5; Article critiques due
9	<i>Spring Break</i>	
10	Operant Conditioning: How to apply it in your everyday life.	Chapter 6

11	<p><b>Discussion:</b> Pryor, K. (2006), <i>Don't Shoot the Dog.</i></p> <p><b>Exam II</b></p>	Article critique due
12	Memory & Cognition: Introduction	Chapter 11, 12; Assigned readings
13	Memory & Cognition (cont'd)	
14	<p>Wayfinding</p> <p><b>Discussion:</b> Tolman, E.C. (1948), <i>Maps in the mind.</i></p>	Article critique due
15	<p>Memory, Cognition, and Adaptation</p> <p><b>Debate:</b> (1) Shettleworth (2003), <i>Memory and Hippocampal Specialization in Food-Storing Birds: Challenges for Research on Comparative Cognition;</i></p> <p>(2) Healy, et al. (2009), <i>Explanations for variation in cognitive ability: Behavioral ecology meets comparative cognition.</i></p>	Article critiques due
16	<p><i>Last Day of Class wrap-up</i></p> <p><i>[Final to be held during Finals Period]</i></p>	