

**Learning, Cognition, and Behavior    PSYC 104**  
**Fall 2009**  
**Syllabus**

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**Class times:** M & W, 4:05-5:20

**Location:** Rowell 103

**Text:** Terry, W. S. (2009). *Learning and Memory: Basic Principles, Processes, and Procedures* (4<sup>th</sup> Ed.).

This course is designed to provide a solid understanding of the basic principles of associative learning and memory.

One portion of the course will extend your knowledge of the phenomena of classical and instrumental conditioning – you learned the basics of these in PSYC 001. In this class you will extend your understanding of, for example, how we habituate to stimuli, perceptual learning, the role of awareness in learning, and motor or skill learning.

Certainly, we will cover the more abstract and theoretical aspects of associative learning. However, we will also spend significant time discussing the application of associative learning to human problems, such as those apparent in many areas of personal behavior change, psychotherapy, and child rearing.

Another portion of the class will extend your knowledge of the phenomena of memory – again, you learned a bit about this in PSYC 001. Here we will extend coverage of this area beyond the PSYC 001 course by looking at such things as whether simple rules of connection can explain memory phenomena; whether short term memory really exists; dysfunctions of memory such as amnesia dementia, and false memories; and phenomena related to the source of information or for remembering to do things in the future.

The subject matter of this course should be of interest and useful to all students. In addition, the background you gain in this class should provide preparation for more specialized and advanced courses in Psychology, particularly Learning (PSYC 205), Motivation (PSYC 206), and Thinking (PSYC 207).

Both areas of interest in this class -- associative learning and memory -- use humans and nonhuman animals in research. However, you will find that research with nonhuman animals is more dominant in

the study of associative learning and research with humans is more dominant in the study of memory. You might be tempted to dismiss research that is based on nonhuman animal subjects. However, scientists use animals in research because it allows them a great deal of control over important variables in behavior, and greater confidence that we understand what causes the behavior we see. Psychologists are strongly interested in identifying the causes of behavior. And, many (but, of course, not all) of the results with nonhuman animal subjects are generalizable to humans. So, you will want to pay equal attention to all of the research areas of this class.

**Learning Goals:** This is a somewhat more advanced class than PSYC 001. Thus, successful performance in class requires work at a slightly higher level. Of course, at the end of class you should understand the core concepts, theoretical perspectives, empirical findings, and historical trends in the experimental study of learning and memory. However, you should also be able to apply concepts to new settings; to compare, contrast, and integrate ideas and theories; and to evaluate theories and ideas (to say, for example, whether evidence supports a particular theory or not). In short, to do really well in class you should expect to think critically - not in the sense of being negative about things, but rather in the sense of being able to connect with the deeper meanings and relationships and in being creative about the materials of the class.

Achievement of these goals and engagement in class will be assessed in several ways. The most significant aspect of your grad and assessment of your work in the class will be your performance on 4 exams. In addition, you are asked to submit a discussion question related to the material in each two week block of the course and to participate in online discussion of class topics. Your work on two research critiques will demonstrate your understanding of empirical findings in the primary literature and how these findings relate to core concepts and theoretical perspectives in learning and memory.

### **Class Policies and Suggestions:**

**A number of practices will improve your chances of success in this class. The successful student will:**

1. **Complete all reading assignments before each class and study the material daily.** Familiarity with the class topics will be helpful to you in understanding what we do in class. In class I will lecture over some of the more fundamental and/or difficult aspects of the reading, do demonstrations of the phenomena covered in the reading, and expand on the text's coverage. So it will be important for you to be prepared for each class.
2. **Attend all classes, be on time, be attentive during class, and participate actively in class exercises.** As noted above, I'll be expanding on or clarifying material in the text, so if you want to do well in the class, you need to be in class, be here on time, and be paying attention and taking notes during class.

You will sleep more comfortably at home, and communicate more effectively with friends if you are not in the classroom. The classroom space is for education about learning and memory, so you may not sleep, read the newspaper, text, talk to your neighbor, or play video games in the classroom. These other activities are distracting and rude to classmates and to me, and students who engage in them will be asked to leave.

3. **Be well organized, and attentive to assignment deadlines & requirements.** A successful student has a daily planner to keep track of assignment deadlines and class schedules and plans ahead for completion of assignments. A student who completes all reading assignments the night before the exam and who waits until the day before a paper is due to begin it is not as likely to do well in college as a student who plans ahead. In addition, your grade depends on completion of an assignment, and guidelines are the professor's way of telling you what the assignment is. Carefully study assignment guidelines and follow them in completing assignments.
  
4. **Attend all of the question and review sessions.** The evening before each exam there will be a special opportunity for you to ask questions and review material that will be covered on the exam. Attendance at the sessions is optional, and but being there and asking questions about the material will help in your exam score.

**Evaluation:**

Exam 1	18%	108 points
Exam 2	18%	108 points
Exam 3	18%	108 points
Final Exam (cumulative)	18%	108 points
Online Discussion	10%	60 points
2 Research Critiques	18%	<u>108 points</u> (54 points each)
		600 points

**General Grading Rubric:**

**A = Outstanding.** Excellent grasp of the important concepts and methods. Demonstrated ability to critically evaluate concepts and methods, relate them to one another, and apply them to novel examples. Requires hard work, substantial effort, and significant engagement in class.

**B = Very good.** Solid grasp of most of the important concepts and methods. Substantial demonstrated ability to critically evaluate concepts and methods, relate them to one another and to apply them to novel examples. Requires effort, and engagement in the class.

**C = Average.** Grasp of many of the important concepts and methods. Some demonstrated ability to critically evaluate concepts and methods, relate them to one another, and to apply them to new examples, but there may be some deficiencies in these areas. Work and effort at this level of achievement will be merely adequate, and engagement only moderate.

**D = Below average.** Grasp of some of the important concepts and methods. Little demonstrated ability to evaluate concepts and methods critically, relate them to one another, and to apply them to new examples. Work and effort at this level of achievement is inadequate and the student is not sufficiently engaged in the class.

**F = Poor.** Inadequate grasp of important concepts and methods. Little evidence of effort and/or any organization to effort. Lack of understanding of material. Poor class engagement.

**Exams:** Exam format will be multiple-choice. Exams will cover lectures, outside readings, and assigned textbook readings. Each of the first three exams will cover only material in that segment of the class since the previous exam. The final exam will be comprehensive, that is, it will cover material from the whole term.

The final exam will be optional for students who have earned more than 95 points on **EACH** of the three exams, and these students will receive a score on the final equal to their averaged number of points earned on the three exams. Students who do not meet this criterion and who do not take the final exam will receive zero points for it.

**Online Discussion:** Engagement with the material is generally a very good predictor of student learning and student enjoyment in a class. However, this class is too large for many students to participate during class time. For that reason, we will be using the Discussion Board feature of Blackboard. Discussion questions related to each class period will be posted as a “Forum” in the Discussion Board section of our class Blackboard site.

To earn full credit for this portion of the class, you must respond to one discussion question each week and your commentary must be relevant to the question that is asked and be based on a reading of the text. In other words, do the reading assignment before addressing the questions, and keep your comments to the point. In addition, your postings must be no less than 100 words in length.

Discussion questions over a particular reading assignment will be available for a week – Sunday through the following Saturday. Your commentary must be posted in that time frame for you to receive credit. To respond to a question (as part of a “Forum”), click on the Forum you would like to respond to, and click on the text at the top of the page (called the “thread”), and click on the small “reply” button. A box will open for your response. On the subject line, write a few words related to your response, and in the larger box, type your response. Click the “submit” button to post your response.

The Discussion Board feature also allows students to comment on other student’s writing in response to questions. This term, you may choose to respond to another student’s commentary instead of writing your own response to the discussion questions. To fulfill your weekly participation requirement in this way, your comment must be no shorter than 100 words in length, show that you have completed the reading, and be a thoughtful response to the writing of another student in class. Please, be thoughtful in your responses.

Sometimes students are reluctant to share their work with other students, so the “anonymous” option of the Discussion Board has been enabled. If you post anonymously, only the instructors of this class will be able to attach your name to your comments.

Because there are only two “real” classes in the first two weeks, due to the Labor Day holiday, those two

weeks will count as one week and those questions will be available for two weeks. In addition, the Monday before the Thanksgiving break will be included with the previous week, and those questions will be available for a week and a half – Sunday through Wednesday.

**Research Critiques:** There will be 4 journal articles (2 related to “learning” and 2 related to “cognition”) posted on the Blackboard course site. You will choose 1 of the “learning” articles and 1 of the “cognition” articles to critique. **If you choose the learning article that uses nonhuman animals as subjects you must choose the cognition article that uses humans as subjects. Likewise, if you choose the learning article that uses humans as subjects you must choose the cognition article that uses nonhuman animals as subjects.**

Critique 1 (“learning” article) is due in class on **Monday, Oct. 19.**

Critique 2 (“cognition” article) is due in class on **Monday, Nov. 16.**

Please staple your critique!

**For every day late, 5 points will be deducted from your total.**

Critiques are required to be in following format:

- A. First page = Title page (your name and the title of the article you are critiquing)
- B. At least 2 full pages of critique (12 point Arial font, 1.5 spacing, 1” margin all-around)
  1. About half a page of Introduction
    - a) what is the article about?
    - b) why did the researchers consider the topic to be important?
  2. About half a page of Summary
    - a) what was the hypothesis being tested?
    - b) what were the basic Methods used and Results found?
    - c) how does this research answer the “big picture” question of the authors? (Hint: this is usually after about the first paragraph or so of the Discussion)
  3. About half a page relating this research to a topic or topic(s) that we’ve discussed in the course
  4. About half a page discussing what the next step of this research might be (for example, using a different behavioral procedure and how this might answer some new questions; transferring the work from animals-to-humans or humans-to-animals and how that might allow you to ask and answer different questions; how the work could be made to apply to human health)

**Blackboard information:** We will be using Blackboard to manage the course. Just point your browser to: **bb.uvm.edu** and log in using your UVM NetID and password. The syllabus, extra readings, discussion board and information regarding assignments will be available online. In addition, I will use Blackboard to post announcements related to class, so check our site regularly.

On the Friday before the following week's classes, **\*a reduced version\*** of the PowerPoint overheads that I will use for lecture will be made available in the Class Materials folder under "Powerpoint Outlines" on our Blackboard site. **PLEASE NOTE:** These posted overheads **\*do not\*** contain all of the information on the final overheads that are presented during lecture!! They are designed to be a framework for you to use when taking notes or preparing for class, and do not substitute for class attendance.

### **University of Vermont Code of Academic Integrity:**

All academic work (e.g., homework assignments, written and oral reports, use of library materials, creative projects, performances, in-class and take-home exams, extra-credit projects, research, theses and dissertations) must satisfy the following four standards of academic integrity:

1. All ideas, arguments, and phrases, submitted without attribution to other sources, must be the creative product of the student. Thus, all text passages taken from the works of other authors must be properly cited. The same applies to paraphrased text, opinions, data, examples, illustrations, and all other creative work. Violations of this standard constitute *plagiarism*.
2. All experimental data, observations, interviews, statistical surveys, and other information collected and reported as part of academic work must be authentic. Any alteration, e.g., the removal of statistical outliers, must be clearly documented. Data must not be falsified in any way. Violations of this standard constitute *fabrication*.
3. Students may only collaborate within the limits prescribed by their instructors. Students may not complete any portion of an assignment, report, project, experiment or exam for another student. Students may not claim as their own work any portion of an assignment, report, project, experiment or exam that was completed by another student, even with that other student's knowledge and consent. Students may not provide information about an exam (or portions of an exam) to another student without the authorization of the instructor. Students may not seek or accept information provided about an exam (or portions of an exam) from another student without the authorization of the instructor. Violations of this standard constitute *collusion*.
4. Students must adhere to the guidelines provided by their instructors for completing coursework. For example, students must only use materials approved by their instructor when completing an assignment or exam. Students may not present the same (or substantially the same) work for more than one course without obtaining approval from the instructor of each course. Students must adhere to all course reserves regulations, including library course reserves, which are designed to allow students access to all course materials. Students will not intentionally deny others free and open access to any materials reserved for a course. Violations of this standard constitute *cheating*.

**Use of laptop computers in the classroom:** Some students like to use a laptop computer to take notes during class. (But do always bring paper with you, as you may wish to draw graphs or sketches of other things covered in class.) However, the screen of the computer can be distracting to other students. Therefore, students using laptops are asked to sit in the last few rows of the classroom.

**Religious Holidays:** Of course, students have the right to practice the religion of their choice. Each semester students should submit in writing to their instructors by the end of the second full week of classes their documented religious holiday schedule for the semester. Faculty must permit students who miss work for the purpose of religious observance to make up this work.

**Makeup exams and extensions for assignments:** If you have a chronic medical condition that may interfere with taking an exam sometime in the semester, you **\*must\*** contact the professor (and not the

teaching assistant) for the class by the end of the second full week of class to discuss it. In addition, if you participate on an athletic team and the competition schedule is likely to affect your ability to be present for exams, you must provide your competition schedule to the professor by the end of the first week of class. Students who are ill or experiencing a personal crisis that is sufficiently significant to affect their ability to take an exam or complete an assignment **MUST** contact the professor for the course no later than an hour before the exam or class at which the assignment is due. In addition, these students **MUST** go to the Campus Medical Clinic (425 Pearl St. 802 656-3350 for an appointment) or the campus Counseling Center (146 S. Williams, 802 656-8022 or 436 S. Prospect, 802 656-0784) for assistance. Students must provide, to the course professor, a note from the doctor, nurse, or counselor documenting that they have seen a professional at the Medical Clinic or Counseling Center (the presenting problem need not be described). All make up exams will be in essay form.

**Special Needs & Health:** For special needs, you can get information at [www.uvm.edu/~access](http://www.uvm.edu/~access). For health-related issues, you can get information at [www.uvm.edu/health](http://www.uvm.edu/health).

**Accommodations for students with disabilities:** If you have a disability for which you are or may be requesting accommodations, please contact UVM's ACCESS Office (Accommodation, Consultation, Collaboration & Educational Support Services) by phone (656-7753) or email ([access@uvm.edu](mailto:access@uvm.edu)). That office will guide you through the processes that are required for accommodations to be made.

**Important Dates:** The Add/Drop deadline is **Monday, Sept. 14**. If you drop the course before this deadline, it will be removed from your transcript. The Withdrawal deadline is **Friday, Sept. 6**. If you withdraw from the course before this deadline, it will remain on your transcript with a grade of 'W'.

Week	Dates	Sample Topics	Reading Assignment
1	Aug. 31	Syllabus and Preliminaries	Text, Chapter 1
	Sept. 2	Foundations, conceptual approaches and terminology	
2	Sept. 7	No class	Holiday – No class
	Sept. 9	Habituating to and learning about individual stimuli	Text, Chapter 2
3	Sept. 14	What stimuli do we learn to associate and why? When does learning extend to other stimuli? When not?	Text, Chapter 3, pgs. 50-69
	Sept. 16	What IS learned in Pavlovian conditioning? Can associational learning help us understand drug reactions, the acquisition and loss of fears, and other health issues?	Text, Chapter 3, pgs. 69-86

4	Sept. 21	How do consequences change behavior? What kinds of events can serve as reinforcers? Can learning happen without reinforcement?	Text, Chapter 4, pgs. 87-106
	Sept. 23	Is awareness of reinforcement necessary for learning? What is learned in instrumental conditioning? How can we use reinforcement principles to change our OWN behavior?	Text, Chapter 4, pgs. 107-126
5	Sept. 28	What happens when reinforcement ends? Is punishment a good way to eliminate a problem behavior?	Text, Chapter 5, pgs. 127-141
	Sept. 30	Can the absence of an event reinforce a behavior? Can one learn to be helpless in the face of controllable events? How might this relate to obsessive-compulsive behavior?	Text, Chapter 5, pgs. 141-156
6	Oct. 5	<b><u>*Exam 1</u></b>	
	Oct. 7	How do we learn things in a series? Can words be associated like other stimuli can?	Text, Chapter 6, pgs. 157-174
7	Oct. 12	Is recall of information random, or does it follow some sort of organization? Are there different levels of remembering and learning?	Text, Chapter 6, pgs. 174-189
	Oct. 14	Can we divide memory types by how long they last? Do different stages of memory “act” differently?	Text, Chapter 7, pgs. 190-206
8	Oct. 19	Does thinking “deeply” help you remember something? How does forgetting happen? <b><u>*Research Critique 1 due</u></b> in hard copy at classtime.	Text, Chapter 7, pgs. 206-223
	Oct. 21	How does short-term memory work? How is it studied?	Text, Chapter 8, pgs. 224-239

9	Oct. 26	How can immediate memory hold several things at once? Are auditory memories processed differently than visual ones? What is the role of attention in immediate memory?	Gluck, M.A., Mercado, E., and Meyers, C.E. (2008). Chapter 5 from Learning and Memory, pgs 173-189 and 197-203. (available at Blackboard Resources folder)
	Oct. 28	Does short-term memory really exist as a separate stage? How does STM help us with everyday cognitive tasks?	Text, Chapter 8, pgs. 245-254
10	Nov. 2	Does the way you learn something affect how long you remember it?	Text, Chapter 9, pgs. 255-272
	Nov. 4	<b>*Exam 2</b> – on material covered since Exam 1	-----
11	Nov. 9	What is Alzheimer’s Disease? What memory problems to Alzheimer’s patients have? What are the physical problems that underly Alzheimer’s symptoms?	To be announced
	Nov. 11	What characteristics of the learner’s approach make a difference in how long a memory lasts?	Text, Chapter 9, pgs. 273-292
12	Nov. 16	How is information stored over the long term? What affects retrieval from long-term storage? <b>*Research Critique 2 due</b> in hard copy at classtime.	Text, Chapter 10, pgs. 293-315
	Nov. 18	When memory goes wrong. Can memories be lost and then recovered?	Text, Chapter 10, pgs. 315-328
13	Nov. 23	Memory for spatial locations, and for motor skills.	Text, Chapter 11, pgs. 329-347
	Nov. 25	No Class – Thanksgiving break	-----
14	Nov. 30	Can we remember without being aware of learning something? Does the memory of an expert differ from that of a novice?	Text, Chapter 11, pgs. 347-362
	Dec. 2	How does our genetic inheritance and our age	Text, Chapter 12, pgs. 363-378

		affect our ability to form and retain memories?	
15	Dec. 7	Does one's gender or personality affect memory and learning? Can some people remember massive amounts of information? How do they do it?	Text, Chapter 12, pgs. 378-394
	Dec. 9	<u>*Exam 3</u> – on material covered since Exam 2	-----
<b>Final</b>	Fri., Dec. 18	<u>*Final Exam</u> over all of the material covered in the term	