

CONDITIONING AND LEARNING

Summer 2013 – Bruno Sauce

Instructor

Bruno Sauce

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Office

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To help you identify your instructor, here are two pictures representing the extremes of my face-gradient.
(This is a case of learning by generalization)



Terrible!

The picture I should never show anyone



Nice!

The picture I use on Facebook

When and Where: Mon/Wed, 6:00-9:45 PM, at LSH-B105 (Livingston)

Textbook: Domjan, M., The Principles of Learning and Behavior, 6th edition
(Other versions of the book do the trick too)

Office hours: By appointment or if you can catch me inside the Psych Building
(For simpler questions, send me an email or ask during class)

Course Description

This course explores the acquisition and storage of information in animals at the behavioral level. Since many of these learning processes are fairly general, a lot can be induced from one species to other animals. And when I say “animals”, I do not mean only rodents, birds, and dogs, but also naked apes known as humans.

From an academic/poetic angle, learning is what allows life to represent the universe, and to adapt to local regularities on the small scale of a lifetime. From a practical angle, learning is what makes you able to listen to music while driving, able to avoid sunburns during noon, and able to be (shamefully) afraid of bunnies. Whichever angle you might prefer to see it from, learning does influence every aspect of what we think and do; sometimes in perplexing ways.

Everyone should know the principles of learning. Both as a way to learn better how to learn and a way to understand the mental lives of all thinking life. Besides, this topic has, in my opinion, the extra advantage (and it is not a trivial one) of being awesome.

Welcome and I hope you enjoy the ride.

Grading

I want engagement from all of you, and the grading system for this course is based on that desire. The course has two multiple choice exams, with the final being cumulative. In addition to this classical way of evaluation, the course also has three other assignments: quizzes, a “show and tell” presentation, and a debate.

Quizzes: I give one quiz at the end of every class with lectures. For each quiz, you have to create your own question (related to the lecture), and then write your own answer. Harder questions and better answers get more points. To make this more interesting, the best questions from all quizzes become half of the final exam. So, creating harder questions gives you more points for the quiz assignment, and gives more of your own questions in the final (making you more likely to get the questions right).

Show and Tell: The class organizes itself into small groups (around 3 people), and I assign to each group a specific learning phenomenon (blocking, latent inhibition, extinction, avoidance, etc.). During the following days, you have to think of real situations where you saw/experienced this phenomenon. In addition, you have to choose objects related to the examples. I want two examples (and two objects) per person, and they cannot be too similar to other examples from the same group. Then, on the day scheduled, each person of a group has to “show” the objects to the class, and “tell” your story with the phenomenon. It can be any object, as long as you can make your case. A hairdryer, a toy, a speaker, a tent, a tire, a makeup kit... Be creative!

Debate: I split the class into two big groups at the beginning of the course, and you have some weeks to slowly prepare for a full-scale debate. Each group has to defend one side of an old (and still ongoing) controversy inside Psychology: S-S Learning vs. S-R Learning. The debate has four rounds: a round of opening statements, a round of the groups addressing each other (I expect good and civilized attacks/rebuttals), a round of questions from me, and a round of closing statements. 80% of the points for this assignment are based on the performance of your group as a whole (the rubric for the debate is on Sakai), and the other 20% are based on an individual, in-class essay after the debate. In addition, five extra points go as a bonus to the team that I crown as the winner (though not free of biases, I always try to be as fair as possible).

A very good advice now! Do not simply memorize words and facts for this course. Memorization has its role, of course, but you should focus on understanding the concepts. The easiest path to get a good grade with me is to try to connect the dots and grok what “learning” is about (the word “grok” is a sci-fi reference. Look it up). This is the easiest path and also the most rewarding, since the things you will carry after the course are concepts, not specific facts.

Here is an example of facts vs. concepts (bear with me): Rats of an experimental group get food when they press one of two levers depending on the intensity of a shock (either 1.0 mA or 0.25 mA). Each animal receives 100 trials of high intensity shock (learning to press the H lever) and 100 trials of low intensity shock (learning to press the L lever). Then, each animal gets 5 trials with a varying current for the experimenter to define the value where the animal perceives the shock’s intensity as moderate (it is the point where presses of L and H are the same). With this set, now the animals receive 5 trials of a tone signaling the coming of a moderate shock. If an unsignaled moderate shock had, by definition, 50/50% of lever presses, will this ratio change when the shock is signaled? In other words: Is signaled pain perceived as more or less intense? This is a cool experiment that manages to make rats “talk” about their feelings, and tackles an interesting question about learning. However, I bet you will not remember most of those facts after some months. I cannot. On the other hand, if I think about the reasoning of the experiment, I am able to remember what matters: the concepts behind its design, the conclusions, and the relevance of its results.

Grade calculation

The maximum total is 300. After summing all of your points, divide the result by 3 to know your grade in percentage. I will give the final letter grades based on that percentage.

Assignment	Maximum Points
Quizzes	75
Exam 1	50
Show and Tell	25
Debate	50
Final Exam	100

Points needed for each grade

A useful way to keep track of your performance is to think in terms of points below the maximum. For example: if you lose more than 30 points among all assignments, an A will not be possible.

Grade	Points	Percentage
A	270-300	90-100%
B+	261-269	87-89.9%
B	240-260	80-86.9%
C+	231-249	77-79.9%
C	210-230	70-76.9%
D	180-209	60-69.9%
F	0-179	0-59.9%

Course Schedule

Like any other complex phenomenon, the development of this course has a considerable degree of uncertainty. Therefore, the course schedule might change. Keep up!

Week	Date	Topic	Relevant chapter from book
1	July 8th	Introduction of the course and the origins of the empirical analysis of learning and memory	Chapters 1 and 3
	July 10th	The origins of modern learning theories: Flexible learning against automatic learning	Chapter 4
2	July 15th	The origins of modern learning theories: paving the way for contingency and the R-W model	Chapters 1 and 4
	July 17th	Formal models of learning	Chapters 2 and 4
3	July 22nd	Exam 1	-
	July 24th	Instrumental learning and schedules of reinforcement	Chapters 5, 6, and 7
4	July 29th	Punishment, avoidance, and extinction	Chapters 8, 9, and 10
	July 31st	Debate	-
5	August 5th	The learning/behavioral side of depression and anxiety	Chapters 5 and 6
	August 7th	Spatial navigation, cognitive maps, and memory	Chapters 11 and 12
6	August 12nd	Working memory, attention, and the nature-nurture of intelligence	Chapter 11
	August 14th	Final Exam	-

Additional Stuff

No extra credit. If you want to do extra work in order to get a better grade, do it during the course, not after it is over. Study, ask questions, prepare for the assignments, and get engaged!

I only give make-up exams if you provide me a written explanation of a verifiable emergency. The make-up exams can substitute either the exams or the debate, and are in the form of essay questions.

Beware of bogus notices on change of classroom (this already happened twice this summer). Changes in classroom times and room locations are announced only by me. Ignore unconfirmed notices on classroom doors.