

LEARNING PROCESSES

Summer 2016 – Bruno Sauce

Instructor

Bruno Sauce

Email

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Office

Busch Psych, room 315

To help you identify your instructor, here are two pictures at opposite endpoints of my aesthetic gradient
(This is a case of learning by generalization)



Unflattering picture!
The picture I should
never show anyone



Nice picture!
The picture I use on
social media

When and Where: Mon/Wed, 6:00-9:40 PM, at SEC-208 (Busch campus)

Textbook: Michael P. Domjan (2005). *The Essentials of Conditioning and Learning*, 3rd edition
(Other versions of the book also do the trick)

Office hours: By appointment or if you can catch me inside the Psychology 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, show and tell, and debate.

Quizzes: I give one quiz at the end of every class (except during the exams and the debate). For each quiz, you have to create your own question (related to the lecture), and then write your own answer. Better questions get more points. To make this more interesting, the best questions from all quizzes become half of the exam. So, creating better 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: I assign to each student 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 the examples. I want two examples (and two objects) per student. Then, on the day scheduled, you have to “show” the objects to the class, and “tell” your story related to the learning 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 three rounds: a round of opening statements, a round of the groups addressing each other (I expect good and civilized attacks/rebuttals), and a round of questions from me. 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 piece of 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 will make more sense, and will stay with you longer.

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
Midterm	50
Quizzes	75
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 (because your percentage will be below 90%).

Grade	Points	Percentage
A	270-300	90-100%
B+	255-269	85-89.9%
B	240-254	80-84.9%
C+	225-239	75-79.9%
C	210-224	70-74.9%
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 11th	Introduction of the course and the origins of the empirical analysis of learning and memory	Chapter 1
	July 13th	The origins of modern learning theories: Flexible learning against automatic learning	Chapter 3, 4, and 7
2	July 18th	The origins of modern learning theories: paving the way for contingency and the R-W model	Chapters 2 and 5
	July 20th	Formal models of learning	Chapter 6
3	July 25th	Midterm	-
	July 27th	Instrumental learning and schedules of reinforcement	Chapters 7 and 8
4	August 1st	Punishment, avoidance, and extinction	Chapters 10, 11, and 12
	August 3rd	Debate	-
5	August 8th	The learning/behavioral side of depression and anxiety	Chapters 7 and 8
	August 10th	Spatial navigation, cognitive maps, and memory	Chapter 14
6	August 15th	Working memory, attention, and the nature-nurture of intelligence	Chapter 14
	August 17th	Final Exam	-

Additional Stuff

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! A grade is not something given to you; it is something you earn.

If you miss any assignment, you need to provide me with a reasonable explanation in order to replace it. Depending on the circumstances, I might ask for a note from the Dean's office.

Beware of bogus notices on change of classroom. Changes in classroom times and room locations are announced only by me via Sakai. Ignore notices on classroom doors.