



Learning Processes – Summer 2022

Course #311:B3, Term 1, 3 Credits

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Office Hours: By appointment, or if you can catch me in my office. Email appointment is preferred (you should email me before coming to my office to ensure I'll be around).

Time: T/Th 1:00 – 4:40 PM; 5/31 – 7/8; **Location:** SEC 220

****Disclaimer**** Everything in this syllabus is subject to change at my discretion. You will be informed if such changes are made. (This syllabus has been amended from Fall 2018 syllabus prepared by Louis Matzel for 830:311 Learning Processes)

Textbook: Domjan, Michael. *The Principles of Learning and Behavior*, 7th Edition (2010; 2015). Our bookstore will carry a custom edition (it will say something like “Rutgers University 7th Edition”) that does not include an active learning section or a hard cover. This custom edition will save you about \$80. However, you should know that as a custom edition, it will be harder to sell outside of Rutgers. If you have cheap or easy access to the regular edition, that will work fine. Note that my lectures only make loose contact with the book (the book provides background info, but the tests are drawn *mainly* from material in the lectures), thus older editions of Domjan (all the way back to even the 4th edition) will suffice. The bottom line: the cheapest book that you can find will be fine.

You should NOT interpret any of the above to mean that you do not need the book! I am assigning the book for a reason; it will clarify my lectures, provide background information, provide a good source of review, and will provide depth in areas that I do not explicitly cover in class. If you don't read the book, the lectures will be harder to follow and you will need to do more test prep! I will be lecturing under the assumption that you have read the assigned chapters for that class. This is an accelerated summer course and you will need to bare the responsibility of learning the background for my lectures on your own by reading the assigned chapters.

Description:

This course is intended as a survey of the processes that underlie the acquisition, storage, and expression of learning in animals (including humans). The acquisition of knowledge (i.e., learning) pervades every aspect of our lives, influencing our thoughts and behavior in sometimes intuitive and at other times perplexing ways. As psychologists, we must understand these learning processes if we are to understand the complexity of behavior.

Learning is a mental process, and thus under most conditions, cannot be directly observed and instead is inferred from changes in behavior. Behavior is often difficult to interpret, thus we often study nonhuman animals as with these animals it is possible to control behavior in an organized way. For the purposes of this course, we will assume that species differences (e.g., between human and nonhuman animals) are often quantitative as opposed to qualitative, and as such, the general processes underlying learning in one species will apply to other species. Note that in some instances, human learning is qualitatively different from animal learning, e.g., in the case of language acquisition. These are topics that are primarily covered in other classes. In this class, we will discuss basic processes that are common to both human and non-human animals. Do not expect each of the behaviors that we discuss to have a direct analog in human behavior. For the most part, behaviors are used as tools to study mental processes, and the behaviors may not be interesting in themselves. This is a critical distinction, as those who fail to recognize it will often make the mistake of concluding that the behaviors we discuss throughout this course have no analog in human behavior and will quickly become bored. Remember, it's the process that the behavior reveals, not the behavior itself, that usually matters!

I have arranged the course to cover nine topic areas that are of fundamental interest to modern learning theorists (as well as to me) and which in total provide a broad overview of the sometimes narrow/esoteric issues covered in your text. While discussing each of these topics, we will introduce many related concepts. To understand the material that we cover in class, you should be familiar with the material in the book, as it provides a foundation for the lectures. Much of what I will discuss in class does not appear anywhere in the book. If you don't understand something in the book, or want me to discuss something in the book that I haven't

covered, or want clarification of what we talk about during lectures, please ask questions (or make comments) during class! Discussion helps us all understand the material a little better. Additionally, I can always talk to you about the material during my office hours (or any other time that you can catch me) and I respond to email when possible (but often not on the night before an exam, and usually not on the morning before an exam). Again though, it is a good idea to discuss things in class. Discussion means that you are thinking, and thinking will assure you a good grade. It's always best to clarify the material as it is being discussed, SO ASK QUESTIONS AND MAKE COMMENTS IN CLASS!

Course Requirements and Grading:

Very simple: three tests and two quizzes. The exams will each be worth 30% of your grade. The final is not cumulative, but you must understand the material from earlier in the semester in order to understand the later stuff (i.e., you cannot do well on the final if you simply forget the material from earlier in the semester). The exams will likely be composed of both multiple choice and short answer questions. The only time I give make-up exams is if you provide me a written explanation of a verifiable emergency. I'll probably not feel well or have a headache at times this semester, but I will still be in class. My make-up exams are given whenever we can find time (this means outside of regularly scheduled class time), and are usually composed exclusively of essay questions. If you miss an exam, it is your responsibility to contact me.

There will be an online quiz (to be administered through the course's Canvas page) at the end of each week that we do not have an exam. The quizzes will be due on Monday of the following week by 11:59 PM (see schedule below for specific dates) and will collectively be worth 10% of your total course grade. The questions will be composed with the most recent week's lecture in mind. They are open book and open note quizzes and you can use whatever resources you want to answer them, besides me (I won't answer any questions from the quizzes). I do, however, strongly recommend that you work on the quizzes on your own, as I am giving these quizzes in an effort to keep you studying throughout the semester rather than trying to cram for exams all at once (we will learn the exact benefits of this approach over cramming during this class, in fact) as well as to provide an opportunity for you to boost your grades. If the quizzes involve short answer responses, you should **absolutely not** provide the same answer as another student (this is plagiarism and will be treated as such).

This is important: don't expect to simply memorize words or facts and do well on my exams; you need to understand the material, particularly the concepts. Don't busy yourself memorizing what I say in class. Instead, *think* about what I say in class. In this regard, I should also note that it is not important that you write down every word that I say; instead, use your

effort to *think* about what is being said. I have a **very** strong preference for asking application questions that require critical thinking rather than memorization.

Because of an increasing tendency of students to try to persuade me to change their grade after the semester is over, let me be very explicit: I will give anyone as much help as they need to prepare for tests during the semester, and if you need to get extra help, or want to do “extra” work (i.e., prepare more, think more, study harder, talk to me more...), the time to do so is during the semester. **There will be absolutely no “extra credit” offered** outside of your exams and the quizzes. Your exams and the quizzes are the time to earn all the credit you can. Please do not send me an email asking me to round your grade or give you points, either. Neither NASA nor your bank will round up, and neither will I.

Grading Breakdown:

Very simple, your grade will be comprised of three hourly exams and two quizzes

Exam I: 30%

Exam II: 30%

Exam III (Final Exam): 30%

Quizzes: 10% (5% each)

Attendance:

Everyone taking this class is an adult. As such, attending lecture is your choice. I will not be taking attendance. That being said, it's hard to imagine how anyone could succeed without attending the lectures. ***The vast majority of content on the exams will come from my lectures, not the textbook.*** Everyone who comes to class, is paying attention, and actively engages with me and the material should do well in this class. If you don't come to class, or if you sleep in class, or if you text your friends while in class, or if you play on Facebook while in class, you will probably do poorly. If you don't want to come to class, it is probably best not to take this (or any) course (why are you in college?). If you don't come, you should feel very uncomfortable using anyone else's notes as a substitute for coming to class. The material of this course needs to be explained and will be difficult to grasp from reading alone (especially from someone else's notes). The bottom line is, if you make that little effort to come to class and to pay attention while you are here, you will learn a lot and get a good grade. I also happen to think that the material is fun. On a final note, I will be posting my PowerPoint slides for the semester. They are

NOT a substitute for attendance. Believe me, you will **NOT** understand them if you don't come to class!

Learning Objectives:

1. Learn to think critically about the nature of psychological experimentation
2. Understand the processes that underlie basic learning abilities
3. Understand how learning underlies seemingly mysterious behaviors
4. Understand how learning contributes to abnormal behavior
5. Understand how your behavior changes with experience

Academic Integrity: (amended from summer 2017 syllabus: Kaisa Bieszczad 830:311 Learning Processes)

Each student in this course is expected to abide by the Rutgers University Code of Student Conduct and Academic Integrity Policy. Any work submitted by a student in this course for academic credit will be the student's own work. Penalty for violation of the University Code of Student Conduct can also be extended to include failure of the course and University disciplinary action. The risk really isn't worth it.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examination **will** result in failure of the exam, and may lead to failure of the course and University disciplinary action. In short: Do not cheat! Do not plagiarize! Visit <http://academicintegrity.rutgers.edu/resources-for-students> for info and useful links.

Accommodations:

Appropriate accommodations are available for students with disabilities. In compliance with the Rutgers University policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for student with disabilities. Requests for academic accommodations are to be made during the first week of the semester, unless for unusual circumstances, so arrangements can be made. Students are encouraged to register with the Office of Disability Services to verify eligibility for appropriate accommodations and to provide me with documentation. Please see the website of the Office of Disability Services for Students (<https://ods.rutgers.edu/>) for more information.

Schedule (TENTATIVE and subject to change):

Week	Date	Topic	Reading
1	Tuesday, 5/31	What are the necessary and sufficient conditions for the formation of simple memories? Thorndike, Pavlov, and the origins of the empirical analysis of learning and memory.	Chapters 1, 3
	Thursday, 6/2	Is learning a reflexive or cognitive process? Tolman, Hull, and the origins of modern learning theory.	Chapter 4 Quiz #1 due June 6th by 11:59 PM
2	Tuesday, 6/7	Processing stimuli in combination; learning is an active process! Formal models of learning	Chapter 2 Review Chapter 4
	Thursday, 6/9	<u>EXAM I</u>	<u>EXAM I</u>
3	Tuesday, 6/14	Instrumental learning and schedules of reinforcement: Earning a paycheck	Chapters 5, 6, 7
	Thursday, 6/16	Aversive control of behavior with punishment: Why do we commit crimes? Avoidance and escape behavior.	Chapters 8, 9, 10 Quiz #2 due June 20th by 11:59 PM
4	Tuesday, 6/21	Depression and anxiety: do these disorders reflect a failure to control or predict our environment? Animal models of dementia.	Review Chapters 5, 6
	Thursday, 6/23	<u>EXAM II</u>	<u>EXAM II</u>

5	Tuesday, 6/28	Representing space in memory; the “cognitive map”. Memory processes	Chapters 11, 12
	Thursday, 6/30	Working memory, attentional systems, and animal (that includes human) intelligence.	Review Chapter 11
6	Tuesday, 7/5	Review	N/A
	Thursday, 7/7	<u>FINAL EXAM</u>	<u>FINAL EXAM</u>