

Core Syllabus for Dr. Tomie's Learning Processes (830:311:01) course Spring 2019

To My Students:

This Core Syllabus contains information relevant to all of my Learning Processes (830:311) courses. Detailed information pertaining to specific Learning Processes courses, including textbooks, office hours, reading assignments, and exam schedules, are described in the Course Syllabus for Learning Processes provided each semester. The purpose of this Core Syllabus is to inform students of the general goals of my Learning Processes course and the means by which I will attempt to achieve them.

Dr. Tomie

Learning Goals: The goals of this course are to address the following:

- § What are the methods and procedures employed by scientists interested in studying learning?
- § What evidence is required to support the conclusion that learning has taken place?
- § What are the underlying biological and neurobiological substrates that mediate learning?
- § Why do scientists study the behavior of animals to model psychopathological conditions in humans?
- § Why do scientists use mathematical (arithmetic and algebraic) formulas to model changes in behavior that are due to learning?

Overview of the Course: The title of this course is Learning Processes. This course will introduce you to the scientific study of learning, which is the analysis of how behavior changes as a function of experience. Two recurring themes will be emphasized during the course of the semester. We will view drug addiction through the lens of learning. The behavior of the drug addict changes dramatically as addiction sets in. How can an analysis based on learning explain the seemingly irrational behavior of the drug addict? Also in this course, we will use arithmetic principles to attempt to track the changes in behavior observed during simple learning experiments. If our arithmetic model runs into problems, then we will explore the types of changes or adjustments that are needed for our math formula to recover its predictive validity.

Warning: I do not lecture strictly from the textbook. My lectures often cover topics that are not even mentioned in the Domjan textbook. My lectures will cover materials from both of the "Raccoon Stories" by Zito and Tomie, including the Educational Commentary and the Scientific Commentary at the end of each story. Each scientific short story is an example of bibliotherapy, intended to prevent drug addiction by boosting the reader's awareness of how drug addiction gets started, in particular, how the development of a form of Pavlovian conditioning known as sign-tracking contributes to the loss of self-control of drug-taking.

Attendance: You are a University Student. It is your job is to attend all class meetings of this course and all your other courses as well. Poor attendance is highly predictive of poor exam performance and low grades. Attendance will be taken occasionally, and extra credit points will be awarded accordingly. But, more importantly, most of the exam questions will be based on lecture materials that will be covered during class. It is not OK to miss class, and I do not re-give lectures to those who do, regardless of cause. A student who misses a class is not entitled to more academic servicing than the students who attended the class. If you miss a class, then you have created a problem for yourself. You have not created a problem for me. You must get the class notes from a classmate. You are not entitled to access to my class notes.

Grading: Course grades will be based entirely on exam performance plus possible extra credit for attending class or other specific and to-be-announced extra credit events. There will be 4 exams, and each of the 4 exams will consist of 30 multiple choice questions. Two of the 4 exams will be Online Hourly Exams (open book, open notes) while the remaining 2 exams will be the In-Class Midterm Exam and an In-Class Final Exam. In-Class Exams are closed book and closed notes.

In determining your final course grade:

If your point total (sum of all exam scores plus extra credit points) is 108 (or higher), then your average score is at least $108/120 = 90\%$, which is an "A".

If your point total is 102-107, then your average score is 85%-89%, which is a "B+".

If your point total is 96-101, then your average score is 80% - 84%, which is a "B".

If your point total is 90- 95, then your average score is 75%-79%, which is a "C+".

If your point total is 84- 89, then your average score is 70% - 74%, which is a "C".

If your point total is 72- 83, then your average score is 60% - 69%, which is a "D".

If your point total is 71 or lower, then your average score is 59% or lower, which is an "F".

Absence from an Exam: If you miss an exam, then your score for that exam is zero. If you miss an exam due to illness, then your absence from the exam may be excused. To be excused, you must provide a written note from a doctor indicating the dates of illness. Hurtado will not provide a student with a note; however, Hurtado will provide a note if requested to do so by a Dean. That is the process. If you miss an exam for reasons other than illness, then you can explain your situation to a Dean, who may look into it and then provide written documentation of the seriousness of your situation. In which case, your absence from the exam may be excused.

If your absence from an exam is unexcused, then your exam score is zero unless you take the make-up exam, which will be accompanied by a 15% penalty assessment. The make-up exam will be scheduled at the convenience of the TA. If you miss the make-up exam, then your exam score will be recorded as zero and you will receive no further opportunities to take the exam.

In accordance with University policy, exceptions may be granted to student-athletes traveling to scheduled events or to students observing a major religious event that prevents their attending the exam. To gain this exception, student-athletes must provide, during the first two weeks of the semester, on or before Friday, February 15, written documentation from the Athletic Department substantiating their travel schedule.

To gain this exception, students whose major religious observance conflicts with the date of an exam must provide, during the first two weeks of the semester, on or before Friday, February 15, written documentation, on official letterhead signed by an official of their religious organization, substantiating the exact dates that those religious circumstances will interfere with their exam attendance.

Posting to Sakai of Exam Scores and Attendance Credits: The Teaching Assistant will post an announcement via Sakai when exam scores or attendance credits have been posted to Gradebook. All disputes of the record at Gradebook must be made in writing and submitted to the Teaching Assistant within two weeks of the Announcement of the posting of the score or credit. You cannot wait until the end of the semester to dispute a grade or score that was posted to Gradebook more than two weeks earlier.

Academic Integrity:

Academic Integrity Violations include: cheating, fabrication, denying others access to information or material, and facilitating violations of academic integrity. You are expected to abide by the code of conduct pertaining to academic integrity. I will not allow cheating on examinations, and I take special precautions to reduce the opportunity for cheating, while increasing the likelihood of successful prosecution of offenders. I will vigorously enforce the University's regulations on academic integrity. The University's regulations are appropriately strict, and if you plan to cheat, you should first read the regulations and potential consequences:

<http://academicintegrity.rutgers.edu/integrity.shtml>

Situational Courtesy:

Upon entering the classroom, turn off cell phones and beepers.

You are allowed to make audio recordings of my lectures provided that the audio recordings are for your own personal use. You are not allowed to take a picture of any of my lecture slides at any time during my lectures.

Sit near an exit if entering the classroom late or leaving the classroom early.

Texting, twittering, surfing the internet, online shopping, playing computer games, and other disruptive behaviors are distracting to serious students who are sitting near you. I ask you to sit in the back rows of the classroom if you are inclined to indulge in these activities.

Military veterans. If you are military, active or retired, regardless of branch of service, stop by the podium, and let me know. I was deployed for a year in Vietnam (1969-1970) with the 5th Infantry Division, US Army, in Quang Tri Province. I deeply respect those willing to serve and understand the adjustment issues faced when coming home.

Classroom Discussion: Students should be active participants in the classroom. Particularly when the topic of drug addiction is being discussed, students should enrich the classroom discussion. For example, many topics are pertinent to the beginning of the process of becoming addicted, including diminished salience of non-drug rewards, forming drug-centric cliques, tolerance to euphoria, sensitization to craving/wanting, awareness of loss of self-control, etc. Likely most students are not drug naïve, and have experience with drinking alcohol, smoking marijuana, etc. and, hopefully are willing to share their experiences relevant to these topics.

Learning Processes (01:830:311:03) Spring 2019 Dr. Tomie
MW5 (3:20 PM - 4:40 PM) Livingston Campus Beck Hall Aud

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Office Hours: Thursdays, 11:00 AM – 12:00 PM, or by appointment.

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Telephone: 848-445-4036 (leave message)

REQUIRED TEXTBOOKS (All required textbooks are available at RU / Barnes & Noble College Bookstore):

Domjan, M. (2010). *The Principles of Learning and Behavior* (7th Edition). Cengage Learning. ISBN: 978128588563. The 6th Edition is substantially similar and may also be used.

Zito, B., and Tomie, A. (2014). *The Tail of the Raccoon: Secrets of Addiction*. Princeton, NJ: ZT Enterprises LLC. ISBN: 9870991349531. Including Educational Commentary and Scientific Commentary. Also available as a Kindle E-Book.

Zito, B., and Tomie, A. (2015). *The Tail of the Raccoon, Part II: Touching the Invisible*. Princeton, NJ: ZT Enterprises LLC. ISBN: 9870991349555. Including Preface, Educational Commentary and Scientific Commentary. Also available as a Kindle E-Book.

EXAMS: There will be four exams. Each exam will consist of 30 multiple choice questions. A perfect score on all 4 exams will result in a total exam score of 120 points. All of the exams will emphasize materials presented since the last exam. Two of the exams are Online Hourly Exams given during the regularly scheduled Monday class period (on February 11 and April 1). The In-Class Midterm Exam will be given on Monday, February 25. The In-Class Final Exam will be given in accordance with the University's Final Exam Schedule (on Wednesday, May 15).

GRADING:

1. Each of the four exams will account for 25% of your course grade.
2. To make up a missed exam without penalty the student must provide a written note from a Dean or a doctor. For those unable to provide a note, the absence is unexcused and at least a 15% penalty will be assessed. The make-up exam will be scheduled at the convenience of the TA. An additional 15% penalty will be imposed for an unexcused absence from the make-up exam. If you miss the exam and the make-up exam, your score for that exam is zero.
3. Attendance will be taken 5 times during the semester. Four extra credit points will be awarded to students who attend at least 4 of the 5 attendance events. Zero extra credit points will be awarded to students who attend 0, 1, 2, or 3 of the 5 attendance events. At the end of the semester, your attendance extra credit points (either 4 or 0) will be added to the total of your exam score points.

WEEK OF MONDAY

READING ASSIGNMENT

Jan 21 Chapter 1: Introduction.

Jan 28 Chapter 2: Elicited Behavior, Habituation and Sensitization.

Feb 4 Chapter 3: Classical Conditioning: Foundations.

Feb 11 Chapter 4: Classical Conditioning: Mechanisms.

ONLINE HOURLY EXAM #1: MONDAY, FEBRUARY 11

Feb 18 Chapter 4: Classical Conditioning: Mechanisms.

The Tail of the Raccoon: Secrets of Addiction

Feb 25 Chapter 5: Instrumental Conditioning: Foundations.

Tail I: Educational and Scientific Commentaries

Mar 4 Chapter 6: Schedules of Reinforcement and Choice Behavior.

IN-CLASS MIDTERM EXAM: MONDAY, FEBRUARY 25

Mar 11 Chapter 6: Schedules of Reinforcement and Choice Behavior.

The Tail of the Raccoon, Part II: Touching the Invisible

Mar 18

SPRING RECESS

Mar 25 Chapter 7: Instrumental Conditioning: Motivational Mechanisms.

The Tail of the Raccoon, Part II: Touching the Invisible

Apr 1 Chapter 8: Stimulus Control of Behavior.

Tail II: Educational and Scientific Commentaries

Apr 8 Chapter 9: Extinction of Conditioned Behavior.

ONLINE HOURLY EXAM #2: MONDAY, APRIL 1

Apr 15 Chapter 9: Extinction of Conditioned Behavior.

Apr 22 Chapter 10: Aversive Control: Avoidance and Punishment.

Apr 29 Chapter 11: Comparative Cognition I: Memory Mechanisms.

May 6 Chapter 12: Comparative Cognition II: Special Topics.

IN-CLASS FINAL EXAM

IN ACCORDANCE WITH UNIVERSITY'S FINAL EXAM SCHEDULE:

WEDNESDAY, MAY 15 (12:00 NOON - 1:30 PM)