***Course Syllabus   
Psychology 4803 - Learning and Memory  
Fall, 2014 Room 250 JS Coon Building 8:05-9:25 TTh***

Dr. Randall W. Engle  
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***TA:*** The TA for this course is Laura Schaefer. Her email address is lschaeffer6@gatech.edu, Her office is in Room 119 Coon Bldg., and her office hours will bon Thursdays from 9:30-11:30 but she is available other times by appointment.

One thing I like to do the first day is take a photo of you holding up a piece of paper with your name written on it. This helps me learn your name quickly. Please clearly write the name you wish to be called and your last name in large font on one side so we can take your picture holding the sign. On the back I would like to have you write your major and which other relevant courses you have taken including cognitive, cognitive neuroscience, and EAB.

***Texts***: (1) Klein, S. B. *Learning.* 7thd edition. New York: Sage. 2015. (An old standard but with little on memory. I will supplement the memory section with readings to be added later.)  
(2) Reese, E. P. *Human Behavior,*Dubuque, IA: W. C. Brown, 1978. (This book is out of print and is available for download in searchable pdf format from T Square.)

***Course Description***

Many people would argue that learning is the most "PSYCHOLOGICAL" of all topics studied by psychologists. Almost no other academic discipline lays claim to this topic which is certainly not true of many other areas studied by psychologists. Also, it is characteristic of most psychologists to rely on experiential factors to explain complex behavior. These experiential factors generally translate to learning principles. Thus, almost every other content course you will take in psychology will, at some point, touch on some aspect of the principles to be covered in this course. This will even be true of courses dealing with such complex goings-on as social psychology and personality.

It is my opinion that Learning reflects psychology at both its applied and scientific best. There are more true facts, laws and theories subsumed under this course title than perhaps any other course in psychology. However, this is a survey course so we will treat most of this information rather superficially.

Make sure you know the difference between the following terms: hypothetical construct, variable, theory, phenomenon, effect, finding, procedure, and paradigm. It is my experience that a major part of the confusion that students can have about this course is because they cannot discriminate between terms in this list. Know how they are different, or similar, or in some cases, identical.

I have multiple goals for this course. (See the Learning Objectives at the bottom of the Syllabus.) I want you to demonstrate an awareness and knowledge of the types of basic learning, the way that basic learning leads to behaviors you observe in yourself and in others, the way that principles of learning can help you understand other people, and, in some cases, modify the behavior of other people. In addition to the very practical and even technological side of learning, there has been nearly a hundred years of research on understanding the psychological and biological mechanisms of learning and memory. We will spend some time studying and reflecting on different attempts to explain learning. We call those attempts theories and we will talk about some of the studies and their findings that speak to the different theories. I would like for you to have a basic understanding of those psychological and biological mechanisms as we understand them today. Memory is a product of perception and learning and we will spend the last fourth of the course with a brief discussion of memory. Our coverage is brief because nearly all of you will take a cognitive psychology course and it will go into much greater depth than will I in this course.

***Grade***

The grade will be based on 5 parts, weekly quizzes and four exams, one of which will be a comprehensive final covering all the material dealt with in the course. The quizzes will be given in the first 10 minutes of class each Thursday and will cover all material covered in the readings and lecture since the previous Thursday. The first quiz will be next **Thursday**, **August 21st**, and will cover the first chapter of Klein - K, first 2 chapters of Reese – R and what I talk about in class the first day. A particular chapter will be quizzed as long as it is being discussed in class. The questions on the quizzes and exams will be fill-in-the-blank and short answer essay (see next page). I will keep the 10 highest quiz grades and drop the remainder. These 10 quiz scores will be summed to equal one regular exam in the compilation 'of the grade (50 points total). The exams will also be composed of fill-in-the-blank and short answer essay questions and each- exam, including the final, will count 50 points toward the final grade. This amounts to 250 points possible (not counting extra credit points). The grade scale will vary somewhat from semester to semester because of the vagaries of sample size, overall quality of the class, etc. For an A, you will need to have a total of 225 points, for a B, 200, for a C, 175, for a D, 150. Translated to the score on each exam, that would be 45, 40, 35, and 30 respectively for A-D.

I will ***randomly*** take attendance frequently during the semester and I will consider the quizzes (and failure to be present when I return those quizzes), and completion of exams as evidence of attendance. Unexcused absence from 3 or more classes will result in a grade reduction of one letter grade for the class. ***Class begins at 8:05 and if you are not here when I call your name, you are absent!*** As an incentive for you to come to class, if you have perfect attendance on those random occasions when I take attendance, and either give a quiz, or return a quiz, I will substitute your final exam score for your lowest regular exam score IF the final is higher - and the final exam score IS generally higher because of the way I do exams.

***Use of computers, phones, and other electronic gizmos during class is NOT permitted! Turn off all such devices immediately upon entering the room.***

***Make-ups***

There are no make-ups, unless you have an Institute-approved absence. If you miss a quiz due to an unexcused absence, it will count as a zero and can be one of those dropped. If you miss an exam due to an unexcused absence you will be allowed to take a special final that will determine your grade for the final exam and the exam you missed. This special final will be longer than the regular exam and will go into somewhat greater depth in the area of the exam you missed.

***Subject Pool***

**Voluntary extra credit**: A maximum of 20 **extra credit** points can be earned by participating in experiments performed in the School of Psychology. One point will be awarded for each hour of experimental participation. The experiments are performed by faculty and students in the School of Psychology and all have been approved by the Institutional Review Board (IRB) so as to meet stringent ethical guidelines for the testing of human subjects. If you choose to participate in experiments, you can sign up for them using the portal at <https://gatech-psych.sona-systems.com/Default.aspx?ReturnUrl=/>***.*** You should find a study that fits your interests and has a time available when you are also available. When you sign up, make sure you make a note of the time and location because, if you fail to note the time and location, I can’t help you find the experiment. Make sure you show up at the location just before the time you signed up for.

If you find participating in psychology experiments undesirable, you can also earn credits by writing a two-page review and commentary on articles from the journal Current Directions in Psychological Science - two points for each article up to 10 articles. This journal is available as an e-journal through the GT Library. You can **NOT** mix the two means of getting extra credit. You can either do the experiments OR do the reviews. Ask me about how to find appropriate articles. This is a great journal with articles directed at you, undergraduate psychology students, as much as to psychological scientists. I know because I am the Editor of that journal and strive to have the papers be written with you in mind.

**Sequence of Chapters** (K = Klein, R = Reese)

Introduction to learning K1, R1 & R2

Theories of learning K2

Habituation, Sensitization, and Instinct K3

Pavlovian Conditioning: Principles K4, & R6

EXAM 1 WILL OCCUR ABOUT HERE probably on October 2nd.

Theories of Pavlovian Conditioning, K5

Operant Conditioning: Appetitive Conditioning K6, R3 & R4

Operant Conditioning: Aversive Conditioning K7 & R5

Theories of Apppetitive and Aversive Conditioning K8, RX

Biological Influences on learning: K9

Stimulus Control K10, R7

EXAM 2

Cognitive Control of Behavior K11

Memory Storage   
Encoding in LTM

Retrieval and Forgetting

Biology of memory

EXAM 3

Concept learning, Problem solving and decision making

***THE FINAL EXAM WILL OCCUR ON Dec 11 (Thu) 8:00am - 10:50am. It will be a comprehensive exam covering all chapters listed above and all material discussed in class.***

## *Statement regarding Students with Disabilities*

In accordance with the Americans with Disabilities Act, students with bona fide disabilities will be afforded reasonable accommodation. The ADAPTS Office will certify a disability and advise faculty members of reasonable accommodations. The web site for a student requesting accommodation is:

[www.adapts.gatech.edu/faculty\_guide/sturespon.htm](http://www.adapts.gatech.edu/faculty_guide/sturespon.htm).

## *Academic Integrity and Test Security*

Please do not come to exams late. I will not let you take an exam while wearing sunglasses, caps with bills or while listening to any type of recording device. I do not return my exams. If I find you in possession of an old exam then you are in violation of the Georgia Tech Student Code of Conduct (See Section B.1 of the Student Code of Conduct for Georgia Tech):

**B. PROHIBITED ACADEMIC CONDUCT**

Any Student accused of committing or attempting to commit one or more of the following acts of academic misconduct is subject to conduct procedures in accordance with Section D.

**1. Unauthorized Access: Possessing, using, or exchanging improperly acquired written or verbal information in the preparation of a problem set, laboratory report, essay, examination, or other academic assignment.**

2. Unauthorized Collaboration: Unauthorized interaction with another Student or Students in the fulfillment of academic requirements.

3. Plagiarism: Submission of material that is wholly or substantially identical to that created or published by another person or persons, without adequate credit notations indicating the authorship.

4. False Claims of Performance: False claims for work that has been submitted by a Student.

5. Grade Alteration: Alteration of any academic grade or rating so as to obtain unearned academic credit.

6. Deliberate Falsification: Deliberate falsification of a written or verbal statement of fact to a Faculty member and/or Institute Official, so as to obtain unearned academic credit.

7. Forgery: Forgery, alteration, or misuse of any Institute document relating to the academic status of the Student.

8. Distortion: Any act that distorts, or could distort grades or other academic records.

9. Intellectual Property: The unauthorized use of an instructor's intellectual property, including marketing and selling, is prohibited (such properties may include power point presentations, lecture notes (any media), examination questions, study guides, etc.).

Students must do their own work on assignments, projects, and tests unless collaboration is previously specified and approved by the instructor (see Section B above). Students caught cheating will receive zero credit for that assignment/quiz/test and may be subject to further sanctions through the Office of Student Integrity.

Please refer to the published Georgia Institute of Technology Academic Honor Code for further information: http://www.policylibrary.gatech.edu/student-affairs/code-conduct

I have printed below some examples of quiz and test questions below:

1. Name and define the two types of stimuli and two types of responses in Pavlovian conditioning.

2. Describe the approach to the study of learning called Behaviorism and name two principle developers of this approach.

3. What is the difference between Shaping and Fading?

***Learning Objectives:***

* Demonstrate an awareness and knowledge of the types of basic learning and its related processes, including habituation, conditioning, generalization, inhibition, aversion, reinforcement, punishment, stimulation
* Understand the way that basic learning leads to behaviors you observe in yourself, in others, and in nonhuman primates
* Understand the way that principles of learning can help you understand other people, and, in some cases, modify the behavior of other people.
* Reflect on the over one hundred years of research on the psychological and biological mechanisms of learning and memory, and the different attempts to explain learning (theories)
* Demonstrate a basic understanding of those psychological and biological mechanisms for learning and memory as we understand them today (e.g., Memory is a product of perception and learning)
* Compare historical and contemporary models of learning and memory