Syllabus for PSY 410-001 – Advanced Cognitive Psychology. **Spring 2012**

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Course description: Cognitive Psychology is the scientific study of mental processes; that is, the processes by which we *acquire*, *store, transform*, and *use* information. The main topics in this field are *pattern recognition*, *attention*, *memory*, *knowledge*, *problem-solving*, and *decision making*. Also relevant are questions about the nature of *emotion* and *consciousness,* and *relations between mind, brain, and behavior*. This course is an introduction to the major phenomena, methods, concepts, principles, and theories that make up the field of Cognitive Psychology.

Learning Outcomes: Upon completion of the course, you should be able to: (1) Understand and apply experimental methods in the study of human cognition; (2) Identify and critique the primary research literature on cognition; (3) Develop, conduct, statistically analyze, and interpret cognitive research; and (4) Cogently communicate ideas and data related to the scientific understanding of human cognition.

Lectures and Labs: This course consists of both in-class lectures as well as required laboratory work. All lectures and labs will take place in **Bear 160** with lectures usually occurring on Mondays and labs on Wednesdays. The goal of lectures will be to facilitate your understanding of the topics that make up Cognitive Psychology. The goal of labs will be to give you experience with the tasks and phenomena discussed in the lectures; and to give you practice with the skills you'll need to complete your own cognitive research project (skills such as understanding the design of cognitive experiments; managing, analyzing, & interpreting data; and presenting your final project).

Textbook and required readings: The primary textbook is ***Cognitive Psychology: In and Out of the Laboratory, 4th* Edition** by K. Galotti (2008). In addition to the text, you will also be required to read papers from the primary literature; these will be posted on the course webpage. Questions from these papers will be on the exams. I *strongly* encourage you to read all assigned material *prior* to the class in which it is discussed; doing so will not only make the lectures more interesting but will also increase your understanding and retention of the material.

Most labs will involve completing cognitive experiments using *CogLab 2.0* which can be found at http://coglab.wadsworth.com. To use this site, you will need to purchase a new copy of ***CogLab Online Manual Version 2.0, 4th Edition (with Access Code)*** by Francis & Neath (2007). You can also buy a pdf manual online. Each manual contains a unique code for each student enrolled in the course. Do *not* buy a used copy of CogLab; the access code that comes with each manual can only be used once.

Grading: Final grades will be based on a total of 500 points: 300 from 3 exams (100 points each), 100 from 10 weekly lab assignments (10 points each), and 100 from a research project. Grades will be assigned using a 10-point scale (A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = < 60%) with minuses appended to scores ending in 0, 1, or 2 and plusses appended to scores ending in 7, 8, or 9.

Exams: There will be 3 exams, each worth 100 points. Exams may contain a variety of testing formats (e.g., defining terms, true/false, etc.) but will primarily consist of multiple-choice questions and short essay questions. Make-up exams will be given only when a scheduled exam is missed due to an unavoidable (e.g., medical) emergency. If this happens, I will request documentation of the emergency.

Lab Assignments: Most labs will have two parts: (1) Completing an assignment related to the research skills used in this course; and (2) Participating in a *CogLab* experiment and answering questions about it. **Lab assignments will be due by 5pm on the Friday immediately following the lab, and should be e-mailed to the TA (see address above).** Given the complexity of the assignments, you are strongly encouraged to complete lab assignments during the scheduled lab period so that you can receive guidance from me, the TA, and your classmates. Such guidance is not guaranteed outside of the designated lab period; lab attendance is thus highly recommended. Each lab will be worth 10 points and will be based on your ability to (a) analyze relevant data, (b) answer assigned questions, and (c) participate in the lab meeting.

Research Project (Poster Presentation & Final Paper): A fundamental component of scientific psychology is designing, conducting, and reporting empirical research. To give you first-hand experience in this process, each student will be required to conduct an experiment and present the results of that experiment in two ways -- as a research poster and as a written report. The **poster presentation** will be worth 40 points and will be part of mini-conference that we will stage on **Wednesday, April 25th from 3:00-6:00pm**. The **research paper** will be a more in-depth report of your experiment written in strict APA format. This paper will be worth 60 points and is due **Monday, April 30th by 5pm (e-mailed to me)**. You will also be required to turn in a **1-2 page proposal** outlining the experiment you intend to conduct so that I can approve your experiment, and give you feedback for improving your question and design; this proposal should be emailed to me by **5pm, February 24th**. Please note that **no experiment for this course can be conducted without my prior approval.**

Attendance. Although attendance is not explicitly monitored, all exams will draw from both assigned readings and material presented in lectures and labs (much of which is *not* covered in the readings). Thus, it is strongly recommended that you attend all classes and labs. As well, there will be a few **pop-quizzes** each worth 10 *extra-credit* points. Quizzes will be unannounced with no make-ups given. On day a pop-quiz is given, it will be handed out at the beginning of the class and you will have 10 minutes to complete it. Students coming to class late will not be given extra time to complete the quiz.

Participation. Participation in the lab section of the course is required and can affect how many points your earn for each weekly lab assignment. Participation in the lecture portion of the course, either by asking questions or contributing to class discussions, is not explicitly required but is strongly recommended and can also influence your grade. **Please participate!**

Laptops, Cell Phones, and other Electronic Devices. Unless explicitly approved by the instructor, use of laptops, cell phones, and other personal electronic devices is not allowed during lectures or exams. Use of any of these devices during an exam or quiz will be considered cheating and a score of zero will be assigned without exception. The use of lab computers in Bear 160 during lectures should be for class-related work only. Computers monitors should be turned off during exams and quizzes.

Academic Honesty (Cheating & Plagiarism): The academic honesty policy of UNCW will be strictly followed in this course. Please consult the Student Handbook for specifics about this policy. In brief, neither cheating nor plagiarism will be tolerated in this course. Plagiarism is a form of academic dishonesty in which you take someone else's ideas and represent them as your own. Examples include using someone else's writing without putting that writing in quotation marks and clearly noting the author, or writing about someone else's work (from a textbook or any other material) without noting your source. Plagiarism is a serious ethical violation and can result in you receiving an F for an assignment, poster, paper, or the entire course. **Please do not plagiarize!**

Tentative Lecture & Exam Schedule (*all dates, topics, & readings subject to change*)

Date	Topic	Reading Assignment
Jan. 11	Orientation to Course	
Jan. 16	***MLK Holiday (no class)***	Carey (2010) & Belluck (2011).
Jan. 23	History of Cognitive Psychology	Chapter 1.
Jan. 30	Neural Basis of Cognition	Chapter 2 & Churchland (1988).
Feb. 6	Pattern Recognition	Chapter 3.
Feb. 13	Attention	Chapter 4.
Feb. 20	**EXAM 1**	
Feb. 27	Short-Term & Working Memory	Chapter 5 & Engle (2002).
Mar. 5	Long-Term Memory	Chapter 6 (pp. 183-202).
Mar. 12	***Spring Break (no class)***	
Mar. 19	Implicit & False Memory	Chapter 6 (pp. 202-231) & Toth (2000).
Mar. 26	Semantic Memory & Exam 2 Q&A	Chapter 7.
Apr. 2	**EXAM 2**	
Apr. 9	Concepts and Categories	Chapter 8.
Apr. 16	Imagery & Visual Knowledge	Chapter 9.
Apr. 23	Judgment & Decision Making	Chapter 13.
Apr. 30	Reasoning & Problem Solving	Chapter 11.
May 4	**FINAL EXAM: Friday @ 3pm in Bear 160**	

Lab Schedule (*all dates, topics, & assignments subject to change*)

Date	Topic	Lab Assignment
Jan. 18	Cog Methods & Data Analysis in Excel	(1) Analysis of Memory Data
Jan. 25	Signal Detection Theory	(2) Analysis of Signal Detection Data
Feb. 1	Neurocognition	(3) Brain Asymmetry & FP Overview
Feb. 8	Pattern Recognition	(4) Visual Search
Feb. 15	Attention & Exam 1 Q&A	(5) Vis-Search Data Analysis & Stroop
Feb. 22	Finalize Final Project Proposal	> FP Proposal Due March 24 @ 5pm
Feb. 29	Short-Term & Working Memory	(6) Memory Span & FP Lit. Search
Mar. 7	Long-Term Memory	(7) False Memory & FP Method Section
Mar. 14	***Spring Break (no class)***	
Mar. 21	Implicit Memory	(8) Remember/Know Task & Pilot Run
Mar. 28	**Data Collection Day**	
Apr. 4	FP Data Analysis & Results Section	
Apr. 11	Concepts	(9) Prototypes, SL, & FP Results Section
Apr. 18	Imagery	(10) Mental Rotation & Poster Creation
Apr. 25	**Poster Presentation Day**	

Critical dates

Jan. 18 . . . . . Last day to drop without a grade.
Feb. 20 . . . . . EXAM 1.
Feb. 28 . . . . . Last day to drop without penalty ("W").
Mar. 24, 5 pm . . . . . Research proposal due (e-mail to tothj@uncw.edu).
Mar. 28 . . . . . Data Collection Day.
Apr. 2 . . . . . EXAM 2.
Apr. 25, 3:00-6:00 . . . . . Poster Presentation Day.
Apr. 30, 5:00 pm . . . . . Final Research Paper due (e-mail to tothj@uncw.edu).
May 4, 3:00 pm . . . . . FINAL EXAM in Bear 160.

Required Outside Readings

Carey, B. (2010, September 6). Forget what you know about good study habits. *The New York Times*. Retrieved from http://www.nytimes.com/2010/09/07/health/views/07mind.html.

Belluck, P. (2011, January 20). To really learn, quit studying and take a test. *The New York Times*. Retrieved from http://www.nytimes.com/2011/01/21/science/21memory.html.

Churchland, P. M. (1998). *Matter and Consciousness* (excerpt from Chapter 7, pp.131-145). Cambridge, MA: The MIT Press.

Engle, R. W. (2002). Working memory capacity as executive attention. *Current Directions in Psychological Science*, *11*, 19-23.

Toth, J.P. (2000). Nonconscious processes in memory. In E. Tulving & F.I.M. Craik (Eds.), *Oxford handbook of memory* (pp. 245-261). Oxford: Oxford University Press.