

CLPS0020
Introduction to Cognitive Science
Fall Semester, 2012

Instructor

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OH: Wednesdays 2-4pm and by appointment

Teaching Assistants:

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Overview

Cognitive science is the study of the mind from an interdisciplinary perspective. It focuses on such questions as how do we process information to recognize objects and faces, to know that a cup is not a bowl, to remember and learn, and to speak and understand? How can studying the brain inform us about the mind? This course will examine the above questions and discuss major themes in cognitive science including nature-nurture, categories and representations, and the nature of computations.

Required Reading

(KEL): Kellogg, R. T. (2012). *Fundamentals of Cognitive Psychology*. Thousand Oaks, CA: Sage Press. (Available at Bookstore)
Reader (Available Online, see below)

Course Requirements

General Grading Guidelines: Grades are determined by performance on the assignments listed below. In general, a grade on an assignment reflects your ability to demonstrate knowledge of the material specific to that assignment, which is hopefully correlated with your knowledge of the material. Your overall grade for the term reflects this demonstrative ability.

Class. Our class meets MWF from 12-12:50pm in Wilson 301. I expect you to attend each class and to complete the assigned reading (see below). Lecture slides (except for the first class) will be posted to the CLPS0020 *Canvas* page prior to the class session. I recommend accessing these slides prior to class to assist in your note taking. I strongly discourage you from simply listening to the lectures without taking notes because the slides will be available to you later. These slides will not contain all of the material presented in class and I will expect you to understand material beyond what is presented on the slides. Further, I reserve the right to change the lecture slides the day of the class to reflect any changes I feel are necessary to present material

to you as clearly as possible. This might also include not covering material on the slides, covering material in addition to the slides, or changing the slides all together.

Auditing. If you choose to audit this class, you are responsible for two things: 1) You must introduce yourself to me in person (not over email, please) to inform me that you are auditing the class. 2) You will be responsible for satisfactory work (i.e. grade of S, C or better) on all written assignments (paper and reaction papers). You will be excused from the exams.

Readings. Each class has a reading associated with it. These readings are required, unless noted by an (R) on the schedule below, in which case the reading is recommended. Your chances for success will improve if you do the recommended readings. Just because I do not talk about a particular topic from the reading in class does not mean that I will not ask about it on an exam. However, my exams are often made up of material presented in both the readings and the lecture.

Kellogg's (2012) book is our text. The other required readings will be available through OCRA. The course password is **Cogsci12**.

Exams. There will be two exams, a midterm and a final. The midterm will be on October 24, during class time. The final will be on December 19 at 9am (location TBD). Do not take this class if you cannot make the exam dates, as there will be no scheduled make-ups. The final will concentrate on material presented in the second half of the semester. However, there will be at least one question on the final that will require you to integrate material from the first half of the semester. Both exams will be made up of fill-in-the-blank and essay questions. You will receive a study guide with the exact essay questions at least one week before each exam. The midterm will constitute 25% of your grade for the class. The final will constitute 30% of your grade.

Paper: There will be one research paper, due on December 10, 2012 at 5pm. The goal of this paper will be to incorporate theory and empirical data. The paper will be worth 35% of your grade. More information will be provided during the semester. Because of the size of the class, no extensions will be given on the paper for any reason. A small amount of extra credit will be given on this assignment if you turn it in by December 3 at 5pm. Papers turned in after the 10th will be accepted, but penalized one half grade per day. Papers will not be accepted after 5pm on December 14th.

Reaction Papers: Over the course of the semester, you will be asked to write *four* 1-page (single space, 1" margins, 12pt font) reaction papers to some of the assigned readings from journal articles. There are 13 possible assignments (you can do as many as you like, but you will only receive credit for four). The assignments are marked below. I strongly advise not waiting until the last weeks of the semester to do these assignments. These papers are due in class on the days indicated below. Because there are thirteen possible chances, I will not accept late papers at any time, nor will I (or the TAs) give extensions on these papers or accept these papers over email (they must be submitted through the Canvas system). Together, these four papers are worth 10% of your grade (2.5% each).

What is a reaction paper? Writing a reaction paper involves taking the content of the article and writing a response position. Since all of the articles will contain experiments (either full descriptions with methods and results, or summaries), it is often wise to focus on those experiments. An experiment is done to answer a question. What is that question? How was the experiment designed to answer it? What did it find? Did it answer the question in a satisfactory way (why or why not?). Do the results bring up other questions? Do the authors address those questions? Do you think the authors have answered the questions they pose in a suitable manner? Why or why not?

The above questions are general guidelines. You do not have to answer all of them in each reaction paper. Nor do you have to answer these questions for the entire article (that will often be difficult). Rather, you should focus on one or two of them for one or two parts of the article, and expound on your answer. Importantly, a reaction paper is not a summary. The TAs and I have read the papers, so we do not want you to summarize them; instead, you should tell us something new, something that reflects your own thinking. The purpose of the assignment is to

determine whether these experiments or theoretical structure presented in the paper address the research topic in a satisfactory manner, and for us to gauge your thoughts about the experiments or theory, and relations among the data and the theoretical claims that are made. The hope is that the reaction papers provide you with a good deal of preparation for writing the final paper. My advice is to do them early, and talk to the TAs about the feedback you receive and the questions you might have. Reaction papers will be graded on an S/NC basis. The TAs will assign grades of NC to reaction papers that just summarize the material (i.e., present no original thought) or if your paper indicates a less than thorough reading of the assignment.

Schedule of Classes and Assignments

Below is a list of each class meeting, the topic that will be discussed, and the reading that is assigned for that class. All class assignments are also indicated below. Recommended reading (i.e., reading that is not required) is designated with an (R). KEL is your textbook.

<u>Dates</u>	<u>Topics</u>	<u>Readings</u>
Sept 5	Introduction	None
Sept 7	History and Philosophy 1	Palmer (1999), pp. 618-624 (R) KEL, Preface
Sept 10	History and Philosophy 2	Palmer (1999), pp. 624-630 KEL pp. 1-14, 19-30
Sept 12	History and Philosophy 3 <i>RP on Turing Due</i>	Skinner (1985) Turing (1950)
Sept 14	History and Philosophy 4	Marr (1982), pp. 20-29 Miller (2003)
Sept 17	High Level Perception 1 <i>RP on Tarr & Cheng Due</i>	KEL pp. 33-49 Tarr & Cheng (2003)
Sept 19	High Level Perception 2 <i>RP on Eimas et al. Due</i>	KEL pp. 49-61 Eimas et al. (1971)
Sept 21	Color Perception 1	Palmer (1999). 94-107
Sept 24	Color Perception 2	Palmer (1999), 107-122
Sept 26	No Class	
Sept 28	Color Perception 3	Palmer (1999), 137-142
Oct 1	Attention 1	KEL pp. 63-75
Oct 3	Attention 2 <i>RP on Treisman Due</i>	KEL pp 76-93 Treisman (1986)
Oct 5	No Class	

Oct 8	No Class: Fall Weekend	
Oct 10	Short Term Memory 1	KEL pp. 95-117
Oct 12	Short Term Memory 2 <i>RP on Miller Due</i>	KEL pp.117-125 Miller (1956)
Oct 15	Long term Memory 1 <i>Receive Study Guide for Midterm</i>	KEL pp. 127-134,
Oct 17	Long Term Memory 2	KEL pp. 137-151
Oct 19	Long Term Memory 3	KEL pp 155-162
Oct 22	Long Term Memory 4 <i>RP on Rodiger & McDermott Due</i>	KEL pp 167-182 Roediger & McDermott (1995)
Oct 24	MIDTERM	
Oct 26	Concepts and Categories 1 <i>Receive Final Paper Assignment</i>	KEL pp.183-191, 204-207
Oct 29	Concepts and Categories 2	Murphy (2002), Chapter 3
Oct 31	Language 1	KEL pp. 211-219
Nov 2	Language 2	KEL pp. 219-221
Nov 5	Language 3	KEL pp. 221-230
Nov 7	Language 4	KEL pp. 230-242
Nov 9	Language 5 <i>RP on A. Senghas et al Due</i>	R. Senghas et al. (2005) A. Senghas et al. (2004)
Nov 12	Judgment and Reasoning 1 <i>RP on Tversky & Kahneman Due</i>	KEL pp. 295-299 Tversky & Kahneman (1974)
Nov 14	Judgment and Reasoning 2 <i>RP on Cheng & Holyoak Due</i>	KEL pp. 285-290 Cheng & Holyoak (1985)
Nov 16	Decision Making 1 <i>RP on Kahneman & Tverksy Due</i>	KEL pp. 290-294 Kahneman & Tversky (1984)
Nov 19	Decision Making 2 <i>RP on Bechara et al Due</i>	KEL pp. 299-304 Bechara et al. (1997)
Nov 21-23	Thanksgiving: No Class	

Nov 26	Cognitive Development 1 <i>RP on Spelke et al. (1992)</i>	Spelke et al. (1992)
Nov 28	Cognitive Development 2	Gopnik & Wellman (1994)
Nov 30	Computation 1	McClelland (2009)

**Note: It is possible that class will be canceled on Nov 28 or 30. An announcement will be made the week before, either way.*

Dec 3	Computation 2 <i>Paper assignment extra credit date</i>	Perfors et al. (2011)
Dec 5	Big Ideas 1: Folk Dualism	Bloom (2004), Chapter 1
Dec 7	Big Ideas 2: Moral Reasoning <i>RP on Young et al. Due</i> <i>Receive study guide for final</i>	Young et al. (2007)
Dec 10	Catch Up Class <i>Final Paper Due at 5pm</i>	
Dec 19	Final Exam at 9am, Location TBD	