

CLPS 0040 Syllabus
Mind and Brain: Introduction to Cognitive Neuroscience
Spring 2013
MWF 2:00-2:50pm
Metcalf Auditorium

Instructor

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Course Goals

The objective of the course is to provide students with a broad survey of the emerging field of cognitive neuroscience. Topics surveyed in the course include the neural bases of perception, attention, memory, language, executive function, emotion, social cognition, and decision making. In addition to gaining a basic background in these topics, students will be encouraged to think critically about the ways that neuroscience can inform questions about cognition.

Primary Textbook

Baars, B. J. & Gage, N. M. (2010). *Cognition, Brain, and Consciousness*, 2nd Edition. Academic Press: Burlington, MA

Graded Assignments

| | |
|---------------------------|---------------------|
| Short Reaction Paper: 5% | <i>Grade Ranges</i> |
| Debates Paper: 15% | A 90-100% |
| Final Research Paper: 20% | B 80-89% |
| Midterm: 30% | C 70-79% |
| Final: 30% | NC ... <70% |

Papers

A short (1 page) reaction paper will be assigned early in the term. This paper will require critical thinking about cognitive neuroscience research in the primary scientific literature. Two longer research papers will also be assigned during the term. A medium length (7 pages) paper will be due **March 1st**. The goal of this paper will be to research both sides of a major debate in cognitive neuroscience, and propose a resolution, synthesis, and/or additional evidence that might resolve the controversy. You will be required to turn in a draft of this paper on **February 15th**, so that you can receive feedback on your writing. A second final research paper will be longer (10 pages) and will synthesize the research in a specific topic area in depth. A proposal and draft of this paper will be due **April 1st** and **April 12th**, respectively. And, the final paper will be due **May 1st**.

It is your responsibility to turn in assignments on the date they are due. All assignments should be submitted through the course website. For each day that an assignment is late without an acceptable excuse, one half of a letter grade will be deducted.

Please note: Again, all submissions should be through the course website. No written assignments will be accepted over e-mail or in paper form.

Exams

There will be a midterm exam on **March 11th** and a final exam at **2:00pm on May 15th**. The exams are not cumulative and will test material from both the readings and lectures. Often, material will be covered in lecture that is not included in the reading or will be covered in greater detail than what is written on the slides that are posted on the Canvas website. Please note your knowledge of anything that is said during lecture or that is in the assigned readings for the course may be tested on the midterm or final exams. Thus, it is very important to keep up with both the lectures and the readings throughout the term and engage with the course materials actively. If you do not understand something from the lectures or readings, you should clarify these points at office hours with either the instructor or the TA for the course. Likewise, if your curiosity is simply piqued by something you read or heard in lecture and you would like to hear more about it, I strongly encourage you to come by office hours and discuss it with an instructor for the course. We enjoy discussing these topics, and even if we don't have an immediate answer for you, we will try to find one.

Course Website

There is a Canvas website for the course. Lecture slides will be posted prior to each lecture on the website in order to support note taking. However, taking notes is one means of active learning (organizing what the instructor is saying in your own way), so it is important to use the slides on-line as an aid but not a substitute for lecture. Also on the website are any supplementary readings or web links related to the course

Assignments will be submitted through the website, and grades will be posted there, as well. We will not accept written assignments through e-mail or paper copy.

Class Schedule

| Date | Topic | Reading | Assignment Due |
|---------------|---------------------------------------|-------------------|------------------------|
| 1/23 | Introduction to the course | Syllabus | |
| 1/25 | *** No Class *** | | |
| 1/28 | Methods of Cognitive Neuroscience I | Ch. 4 | |
| 1/30 | Methods of Cognitive Neuroscience II | Appendix | |
| 2/1 | Neuroanatomy | Ch. 5 | |
| 2/4 | Neural Signaling and Computation I | Ch. 3, Ch. 16:4-6 | Reaction Paper |
| 2/6 | Neural Signaling and Computation II | | |
| 2/8 | Sensory Systems | Ch. 6 | |
| 2/11 | Visual Perception I | | |
| 2/13 | Visual Perception II/Pubmed Tutorial | | |
| 2/15 | Visual Perception III | | Debate Draft |
| 2/18 | *** University Holiday – No Class *** | | |
| 2/20 | Visual Perception IV | | |
| 2/22 | Attention I | Ch. 8 | |
| 2/25 | Attention II | | |
| 2/27 | Declarative Memory I | Ch. 9 | |
| 3/1 | Declarative Memory II | | Debate Final |
| 3/4 | Declarative Memory III | | |
| 3/6 | Declarative Memory IV | | |
| 3/8 | Non-Declarative Memory | | |
| 3/11 | Midterm Exam | | Midterm Exam |
| 3/15 | Working Memory | Ch 10:Intro-1.0 | |
| 3/18 | Cognitive Control I: Overview | Ch. 12 | |
| 3/20 | Cognitive Control II: Mechanisms | | |
| 3/22 | Cognitive Control III: Organization | | |
| 3/23- 3/31 | *** Spring Recess *** | | |
| 4/1 | Decision Making/Neuroeconomics I | | Paper 2 Topic |
| 4/3 | Decision Making/Neuroeconomics II | | |
| 4/5 | Decision Making/Neuroeconomics III | | |
| 4/8 | Language I (Neal Fox) | Ch. 11 | |
| 4/10 | Language II | | |
| 4/12 | Concepts and Categories | Ch. 10:4.0 | Paper 2 Draft |
| 4/15 | Time and Number | | |
| 4/17 | Emotion I: Overview | Ch. 13 | |
| 4/19 | Emotion II: Feelings and Thought | | |
| 4/22 | Emotion III: Disgust, Sex, & Violence | | |
| 4/24 | Social Cognition I: Self | Ch. 14 | |
| 4/26 | Social Cognition II: Others | | |
| 4/29 | Social Cognition III: Theory of Mind | | |
| 5/1 | Review/Catch-up | | Final Paper Due |
| 5/15 | Final Exam – 2:00PM | | Final Exam |