**DRAFT SYLLABUS: COMMENTS WELCOME**

**Junior Seminar in Cognitive Science**

**CGSC 390**

**Fall 2015**

**Instructor:** Mark Sheskin

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**Time/Location:** Thursdays, 2:30-4:20, WLH 002 (on 100 Wall St)

**Office Hours:** Thursdays, 4:30-5:30, SSS 205 G (inside “Panda Lab”)

**Course Website:** on classesv2

**Overview**

This course is intended for juniors in the cognitive science major. It provides an overview of recent advances in cognitive science, as well as some classic foundational papers. By the end of the semester, you should have a better sense of the content and methods used in cognitive science. The readings in this course may be useful for informing your selection of a senior thesis topic. Given the breadth of cognitive science, we will not be able to address all potential topics (and then the interesting intersections between topics!), and so the final list of readings will be determined based on student interests. This is true for all weeks, but especially the final two weeks.

**Course Requirements and Evaluation**

Twenty-four hours prior to each meeting of the course, you should submit two reading responses that are each approximately 250 words. One of these should address the readings for the upcoming meeting, and should focus on a small number (typically 1-3) of criticisms of the arguments in the readings, or questions about the arguments in the readings. These responses will help to structure the discussion of the upcoming meeting. The second response should focus on the *previous* week, and should reference the response submitted for that week and the discussion during that week. How has your understanding of the material changed following discussion with your peers? Combined, the responses and participation in discussion will account for 50% of the final grade. On the course website, you can find an example for each of the reading response types, as well as instructions for how to submit your responses.

The other 50% of the final grade will come from a final project submitted at the end of the semester. This paper can be (a) a literature review of a course topic covered in more depth than we did in class, (b) a literature review of a topic related to the course content, but that we did not have time to cover in class, (c) a project proposal for a study related to the course content, or (d) an empirical study. Option (d) may be a collaboration amongst multiple students. We will discuss ideas for projects in more detail partway through the semester, and students will be expected to have a one page project proposal approved by me shortly thereafter. Your final paper should be between 12 and 15 pages, and may be in a form that will be useful for you in the future (e.g., as a basis for a senior project or a graduate school writing sample).

**Statement on Academic Integrity**

Please do not violate academic integrity during this course. Most notably, do not plagiarize. As defined in the Yale College Undergraduate Regulations (1), “Plagiarism is the use of someone else’s work, words, or ideas as if they were one’s own.” There are many reasons to avoid plagiarism. Two of them highlighted in materials from the Yale College Writing Center (2) are that plagiarism is a “detriment to your intellectual and moral development” and that “Yale punishes academic dishonesty severely.” The Yale Writing Center has many resources you can consult to learn how to use sources properly and avoid plagiarism (3). Please feel free to contact me if you have any questions or wish to discuss any of this information in more detail.

(1) http://yalecollege.yale.edu/sites/default/files/files/URegs\_14-15.pdf

(2) http://writing.yalecollege.yale.edu/advice-faculty/addressing-plagiarism/sample-plagiarism-warnings

(3) http://writing.yalecollege.yale.edu/advice-students/using-sources

**Readings for Each Week** (subject to change based on student interests)

**Week 1: Introduction and Cognitive Science Cookie Social**

**September 3**

* This week, we will meet at the normal classroom location and talk a bit before then heading over to a beginning of the semester social event hosted by the Cognitive Science Program. There are no readings this first meeting, but you might get a head start on Weeks 2 and 3 (the third week especially has a lot of readings).

**Week 2: Where did cognitive science come from?**

**September 10**

* Miller (2003). The cognitive revolution: A historical perspective. *Trends in Cognitive Science*.
* Chomsky (1959). Review of “Verbal Behavior” by B.F. Skinner. *Language*.
* Fodor (1985). Précis of “The Modularity of Mind.” *Brain and Behavioral Sciences.*
* Frankenjuis & Ploeger (2007). Evolutionary psychology versus Fodor: Arguments for and against the Massive Modularity Hypothesis. *Philosophical Psychology*.

**Week 3: Where is cognitive science going?**

**September 17**

* The changing face of cognition. (Special Issue in 2015 in *Cognition*) – read every abstract, and then read three of your choice

**Week 4: Meta-issues in cognitive science**

**September 24**

* Ioannidis (2005). Why most published research findings are false. *PLoS Medicine.*
* Simmons et al. (2011). False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science*.
* Bones & Johnson (2007). Measuring the immeasurable: Or "Could Abraham Lincoln take the implicit association test?" *Perspectives on Psychological Science.*
* Open Science Collaboration (2015). Estimating the reproducibility of psychological science. *Science*. (optional after first page)

**Week 5: Evolution**

**October 1**

* Cosmides & Tooby. Evolutionary psychology primer. http://www.cep.ucsb.edu/primer.html
* Dunbar (1998). The social brain hypothesis. *Evolutionary Anthropology*.
* Debove et al. (2015). Evolution of equal division among unequal partners. *Evolution*.

**Week 6: Development**

**October 8**

* Carey (2004). Bootstrapping and the origin of concepts. *Daedalus*.
* Rips et al. (2006). Giving the boot to the bootstrap. *Cognition.*
* Tenenbaum et al. (2011). How to grow a mind. *Science*.
* Optional:
  + Gopnik (2012). Scientific thinking in young children. *Science*.
  + Ferry et al. (2015). Prelinguistic Relational Concepts: Investigating Analogical Processing in Infants

**Week 7: Language**

**October 15**

* Berwick et al. (2013). Evolution, brain, and the nature of language*. Trends in Cognitive Sciences*.
* Bloom & Keil (2001). Thinking through language. *Mind & Language*.
* Strickland et al. (2015). Event representations constrain the structure of language: Sign language as a window into universally accessible linguistic biases. *PNAS*.

**OCTOBER RECESS**

**Week 8: Artificial Intelligence**

**October 29**

* Turing (1950). Computing machinery and intelligence. *Mind.*
* Cohen & Dennett (2011). Consciousness cannot be separated from function. *Trends in Cognitive Science*.
* TBD additional paper

**Week 9: Modeling**

**November 5**

* Perfors et al. (2011). A tutorial introduction to Bayesian models of cognitive development. *Cognition.*
* TBD additional paper

**Week 10: Comparative**

**November 12**

* Beran et al. (2014). Comparative Cognition: Past, Present, and Future. *International Journal of Comparative Cognition.*
* Jones et al. (2014). Lemurs and macaques show similar numerical sensitivity. *Animal Cognition*.
* Johnston et al. (2015). Another way to learn about teaching: What dogs can tell us about the evolution of pedagogy. *Behavioral and Brain Sciences*.

**Week 11: Topic TBD with Student Input**

**November 19**

* Morality
* Emotion
* Concepts
* Decision-making
* WEIRD and non-WEIRD Participants
* Another topic you suggest

**Week 12: Topic TBD with Student Input**

**December 3**

* See above list of potential topics

**NOVEMBER RECESS**

**Week 13: Student Presentations of Final Projects**

**December 10**

* No readings—but lots of preparing your presentation!