COGS 4901 **M. A. Khalidi**
F W 2011-2012 **Tues 11:30-2:30**

Honours Seminar in Cognitive Science

Course Description

This course will emphasize the inter-disciplinary nature of cognitive science and the bearing of recent research in cognitive science on real-world issues and problems. By the end of the course, students will have completed an original research project in cognitive science that builds on their previous coursework and training in the various disciplines that constitute the field of cognitive science.

By focusing on specific topics and current debates, an attempt will be made throughout the course to make connections between the various disciplines that constitute the interdisciplinary field of cognitive science. In addition, by pairing research articles in cognitive science with coverage of their findings in the media, we will attempt to understand the ways in which research in cognitive science is represented (and sometimes misrepresented) to a wider audience. We will also be considering the implications of recent cognitive research on applications in a variety of fields, from politics to education to law to advertising. The research papers will run the gamut of disciplines within cognitive science. Sometimes the papers we read will represent opposing viewpoints, at other times they will reinforce one another, and at yet other times they might be pitched at cross purposes. Our aim will be to find connections, make comparisons, draw conclusions, and think of directions for future research. We will also read at least one short media article relevant to each week's topic, in order to assess the broader implications of the research and to analyze the way in which it is presented to the wider public. Each week, you will be required to submit a 300-word discussion piece on the Moodle Forum for that week's readings 24 hours before our class meeting.

The topics covered during the **first semester** will serve to guide you in formulating your own research question and in conducting your research project. In the first few weeks of the first semester, you should be exploring avenues for research that build upon your previous coursework in cognitive science. By the middle of the first semester, and after consulting with me, you will have defined your research topic and charted a path for your research, and you will give a preliminary presentation on your research question. During the last week of the first semester, you will be required to give a more developed presentation on your intended research topic. Most of the readings for the **second semester** will be based on students' research projects and each reading will be presented by a student working on a topic related to the reading in question. During the second half of the second semester, you will give a class presentation that sums up your main research findings to date and, based on feedback from me and your fellow students, you will further refine and develop your research project. Each student will be responsible for assessing and commenting on two other student projects. By the end of the second semester, each student will submit a completed research project to me for evaluation.

One of the main goals of this course is to make you more conversant with the different methodologies that are used in cognitive science and to give you more experience with them. This will be achieved both by reading articles that employ a broad range of these methodologies and by conducting a research project that utilizes one or more of them. But in addition to mastering some of these methodologies, we will be aiming to bridge the gaps between them and to relate the results achieved by each of them to those reached by the others. Thus, the aim of the exercise is to foster the skill of crossing disciplinary boundaries and of being able to communicate across the disciplinary divide. This course is the capstone for students in the COGS Honours BA program.

Requirements and Grading

In addition to attendance every week and participation in class discussion, you are expected to fulfill the following requirements:

First semester:

1. Weekly thought piece on each week's readings (due on Moodle discussion board 24 hours before class meeting; 250-350 words). [20%]
2. Presentation based on preliminary statement of research project (including handout) during Week 7. [5%]
3. Presentation based on literature review concerning research project during Week 12. [5%]
4. Written statement of research project and annotated bibliography due at end of semester. [10%]

Second semester:

1. Weekly thought piece on each week's readings (see item 1 above). [See first semester]
2. Presentation of an article from your bibliography (to be decided before beginning of second semester). [10%]
3. Class presentation of research project, including handout and slides. [10%]
4. Peer evaluation of two projects by other students. [10%]
5. Final research project (approximately 8,000 words). [30%]

All students are also required to attend the Cognitive Science Speaker Series during *both semesters*. Visiting speakers will be presenting their research around 3 or 4 times per semester and the schedule will be announced at the beginning of each semester. We will try, as far as possible to coordinate our readings with the research presentations of the speakers.

Late Penalties and Excuses

If you are unable to fulfill any of the requirements for this course by the announced deadlines, you must contact me as soon as possible and always before the deadline in question. If you have a legitimate excuse backed up by supporting documentation (e.g. a medical emergency), your penalties will be reduced or (in some cases) waived. The key is to contact me *as soon as possible* after a problem arises. In the absence of a legitimate excuse, late work will be penalized in accordance with instructions for that particular assignment. Late weekly comments will not be accepted.

Special Accommodation

Students with health-related, learning, physical, psychiatric, or sensory disabilities who require reasonable accommodations in teaching style or evaluation methods should discuss their concerns with me *as soon as possible* so that appropriate arrangements can be made.

Academic Honesty

All students are expected to abide strictly by standards of academic honesty. If you have not done so, please familiarize yourselves with the University Senate Policy on Academic Honesty: http://www.yorku.ca/secretariat/policies/

Topics and Readings (Fall Semester)

Week 1 (Sept 13)	***Course Introduction***
Week 2 (Sept 20) Bilingualism and Cognitive Development	S. M. Carlson, "Developmentally sensitive measures of executive function in preschool children," *Developmental Neuropsychology* 28 (2005), 595–616 E. Bialystok & F. Craik, "Cognitive and Linguistic Processing in the Bilingual Mind," *Current Directions in Psychological Science* 19 (2010), 19-23 Media: http://www.nytimes.com/2011/05/31/science/31conversation.html http://www.newyorker.com/reporting/2009/05/18/090518fa_fact_lehrer
Week 3 (Sept 27) Gender and Cognition	S. Pinker & E. Spelke, "The Science of Gender and Science: A Debate" http://www.edge.org/3rd_culture/debate05/debate05_index.html Media: http://healthland.time.com/2011/08/30/the-math-gender-gap-nurture-can-trump-nature/?iid=pf-main-mostpop2
Week 4 (Oct 4) Research Meetings	***Individual 30-minute meetings regarding research project***
READING WEEK (Oct 11)	***No Class Meeting***
Week 5 (Oct 18) Artificial and Human Intelligence	B. J. Copeland, "The Turing Test," *Minds and Machines* 10 (2000), 519-539 J. H. Moor, "The Status and Future of the Turing Test," Minds and Machines 11 (2001), 77-93 Media: http://www.theatlantic.com/magazine/archive/2011/03/mind-vs-machine/8386/
Week 6 (Oct 25) Belief, Alief, and Implicit Racism	T. Szabo Gendler, "On the Epistemic Costs of Implicit Bias," *Philosophical Studies* (forthcoming) A. R. Pearson et. al., "The Nature of Contemporary Prejudice: Insights from Aversive Racism," *Social and Personality Psychology Compass* 3 (2009), 1-25 Media: http://www.ajc.com/opinion/outdated-racial-stereotypes-can-101679.html

Week 7 (Nov 1) Presentations	***First Presentations on Research Projects***
Week 8 (Nov 8): Collective Intelligence	A. Wooley et. al., "Evidence for a Collective Intelligence Factor in the Performance of Human Groups," *Science* 330 (2010), 686-688 D. Andler, "What has Collective Wisdom to Do with Wisdom?" in J. Elster & H. Landemore (eds.), *Collective Wisdom* (Cambridge: Cambridge University Press, forthcoming) Media: Miller, "Social Savvy Boosts the Collective Intelligence of Groups," *Science Magazine*, 1 October 2010
Week 9 (Nov 15): Consciousness and Mental Qualities	D. Rosenthal, "How to Think about Mental Qualities," *Philosophical Issues* 20 (2010), 368-393 Bruno Berberian et. al., "Action Blindness in Response to Gradual Changes," *Consciousness and Cognition*, 19:1 (2010), 152–171 Media: TBA
Week 10 (Nov 22): Emotion, Cognition, and "Virality"	J. Berger & K. L. Milkman, "What Makes Online Content Viral?" *Journal of Marketing Research*, forthcoming Keltner, Dacher and Jon Haidt (2003), "Approaching Awe: A Moral, Spiritual, and Aesthetic Emotion," *Cognition and Emotion*, 17, 297-314 Media: www.nytimes.com/2010/02/09/science/09tier.html
Week 11 (Nov 29)	Students' Choice of Topic
Week 12 (Dec 6) Presentations	***Second Presentations on Research Projects***

Reading Schedule for Winter Semester to be announced by the beginning of the Winter Semester.