Goals: The objective of this proseminar is to introduce graduate students to fundamental issues in the study of higher level cognition. We will start with origins (evolutionary and developmental) and basic mechanisms (e.g., active maintenance, inhibition, and symbols). We will bring these perspectives to understanding a range of topics in the study of higher level cognition (e.g., intelligence, reasoning, decision-making, and morality), as investigated through a variety of methods (e.g., behavioral, neuroimaging, neurophysiological, and computational).

The course is the fifth module of the six-module proseminar sequence for beginning graduate students in cognitive psychology. It is organized around assigned readings and student presentations.

Readings: Course readings are available at the class web site; the list appears at the end of the syllabus.

Evaluation: Final grades will be based largely on a take-home essay exam, and leading and participating in class discussion:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Final exam</td>
<td>50%</td>
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<tr>
<td>Class participation</td>
<td>15%</td>
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<tr>
<td>Discussion leading</td>
<td>15%</td>
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<tr>
<td>Reading reactions</td>
<td>10%</td>
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<tr>
<td>Discussion-leading feedback</td>
<td>5%</td>
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<tr>
<td>Student-submitted exam questions</td>
<td>5%</td>
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Final exam: A take-home essay exam will be distributed on Tuesday 10/11 (the last class meeting). The exam will be due in my mailbox by 5:00 pm on Tuesday 10/18. Students must complete the exam individually – no communication between class members about the exam will be permitted. This exam will be counted toward fulfillment of the Preliminary Exam requirements.

Class participation: This seminar is discussion-oriented. Your preparation, participation, and cooperation as a group is essential for this format to work. You are expected to read the readings the week they are assigned and to come to class prepared to ask questions and actively participate in discussion. 50% of your participation grade will a shared grade for the group, and 50% will be individual.

To support and encourage effective discussions, in the first class we will discuss “What makes a discussion bad (and what we can do about it).” Throughout the term, we will evaluate the effectiveness of our discussions, and I will welcome suggestions on how to improve them to help us get the most out of them.

Discussion leading: You will be asked to lead discussion in 1-2 class sessions. Such session leading may include very brief presentation of key points from the readings, posing of questions for discussion, and moderating of discussion/debate. Discussion leaders will also be expected to prepare by reading additional relevant papers and to use knowledge gained from these papers to help the class consider the topic of the day. I have provided Optional readings on the web site as possible additional papers, but these are just
suggestions – you should not feel obligated to use these or constrain yourself to them. Discussion leaders should also read students’ reading reactions (see below) in preparation.

**Reading reactions:** For each set of readings, you will be asked to email a few sentences with your reactions. These reactions should include comments or questions that are relevant to the readings and may provide a useful direction for the class discussion. These reading reactions are designed to ensure that you are prepared for discussion, and have provided information about your perspective. Reading reactions should be emailed to the class mailing list (prosem05@grey.colorado.edu) by the night before each class (11:00 pm deadline).

**Discussion-leading feedback:** Students who are not leading discussion will provide feedback to discussion leaders, following the method pioneered by Lew Harvey. Within two days after each discussion, students should email me with at least 3 “Strong Points” and 3 “Weak Points” for that discussion-leading. I will compile these comments, and give them to each discussion-leader anonymously and privately. Students should strive for improvement on their second discussion-leading.

**Student-submitted exam questions:** Each student will submit (email to me) two possible questions for the take-home essay exam. The best questions will encourage integration across topics. The major incentive to write good questions is that your own question (or some variant thereof) might appear on the final exam. The questions will be due Thursday 10/6.

**Grading Policy:** Grades are not curved; they are based on percentages:

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<td>A+</td>
<td>87-89</td>
<td>B+</td>
<td>77-79</td>
<td>C+</td>
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<td>67-69</td>
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<td>63-66</td>
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<td>60-62</td>
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**Schedule**

**8/25/04 Origins: Evolutionary**


**8/30/05 Origins: Developmental**


**9/1/05 Prototype: Prefrontal cognitive review**

9/6/05 **Basic Mechanisms: Active maintenance**


9/8/05 **Basic Mechanisms: Inhibition**


9/13/05 **Basic Mechanisms: Inhibition reconsidered**


9/15/05 **Basic Mechanisms: Symbols and rules**


9/20/05 **Task-switching**


9/22/05 **Intelligence**


9/27/05 **Planning/Problem-solving**


9/29/05 Reasoning


10/4/05 Decision-making


10/6/05 Morality


10/11/05 TBD

The University of Colorado requests inclusion of the following policies on syllabi.

*CU Policy for Students with Disabilities*

If you qualify for accommodations because of a disability, please submit a letter to me from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, or http://www.Colorado.EDU/disabilityservices.

*CU Sexual Harrassment Policy*

The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combination of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed should contact the Office of Sexual Harassment (OSH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the OSH and the campus resources available to assist individuals who believe they have been sexually harassed can be obtained at: http://www.colorado.edu/sexualharassment.
CU Religious Observance Policy

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please notify the instructor of anticipated conflicts as early in the semester as possible so that there is adequate time to make necessary arrangements. See policy details at http://www.colorado.edu/policies/fac_relig.html.

CU Classroom Behavior Policy

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which students express opinions. See policies at http://www.colorado.edu/policies/classbehavior.html and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.

CU Honor Code

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Additional information on the Honor Code can be found at http://www.colorado.edu/policies/honor.html and at http://www.colorado.edu/academics/honorcode.