

**Psychology 414**  
**Cognitive Psychology**  
**Spring 2010**

Course Goal: To develop an appreciation for what we know about human cognition (content), how we acquire this knowledge (methodology), and how to evaluate it (critical thinking). The course will emphasize three themes:

1. Understanding the cognitive system requires formulation of theories, not just the collection of facts.
2. The major purpose of experiments is to help us discriminate between good theories of cognition (those that might be correct) and poor theories (those that are wrong).
3. Because cognition arises from the brain, understanding brain function and brain-behavior relations can give us important insights about the organization of cognitive processes.

Method: The textbook and assigned readings provide background for the lectures and demonstrations in class. **BE CERTAIN TO READ THE MATERIAL BEFORE COMING TO CLASS.** In addition to lecture, we will have a Discussion Day at the end of each section of the course. Prior to each of these days you will receive a list of questions by email. On the Discussion Day we will spend at least one half of our class time in small groups discussing the questions, followed by an open discussion for the remainder of the class time. These discussions should help to prepare you for upcoming exams. Exams are multiple choice, fill-in-the-bubble format. There are typically about 50 questions on each exam, and time allotted for taking each exam is 75 min – the duration of class period.

Outside of class there will be a series of Web-based quizzes, administered via Learn@UW. The pedagogical motivation for these quizzes is a phenomenon that has been studied extensively by cognitive psychologists, called the test-enhanced learning effect. This phenomenon will be considered in some detail in the first lecture of the semester, and again in the section on learning and memory. (Note that from a practical perspective these quizzes are best construed as “homework”; see “Grading”, below).

PLEASE NOTE: The customary rules of thumb about academic honesty pertain to the quizzes as well as to other aspects of this course. Thus, for example, each student is expected to perform each quiz him/herself.

Instructor: Brad Postle; office: 515 Psychology; tel. 262-4330, postle@wisc.edu.  
Office hours: by appointment

TA: Shanta Hattikudur, office: 293; tel. 263-0757, hattikudur@wisc.edu.  
Office hours: W 1-2 pm, R 11am-12pm

*With the exception of time-sensitive emergencies, email is the most effective and preferred way for you to contact us.*

Readings: Required Textbook: Willingham, D.T. (2007\*) *Cognition: The Thinking Animal*. **Third Edition**. Pearson Education, Upper Saddle River, N.J. (\*note: the title page says Copyright 2007, but I’m fairly certain this 3<sup>rd</sup> Ed. just became available in Fall of 2009). In addition, there will be a few e-reserve readings.

Quizzes: The rationale behind administering periodic quizzes as “homework” is summarized in All quizzes will be administered from the Quiz tab of the course’s page on Learn@UW.

Grading: There are three equally weighted exams, each testing your understanding of the material associated with one of the three sections into which the course is organized. Note that information from each of the three principle vehicles used in the course -- readings, lectures, quizzes -- will appear on the exams. Each of the exams is in-class, and none is cumulative. Grades on each exam, and for the course overall, will be assigned using criteria no more stringent than, A  $\geq$  90%; AB  $\geq$  87%; B  $\geq$  80%; BC  $\geq$  75%; C  $\geq$  70%; D  $\geq$  63%. That is, *there is no curve* (unless we decide to scale grades "up," which would help you), *so the grade you earn is a direct function of your own performance, and uninfluenced by the class average*. Each exam counts toward 25% of your final grade. The remaining 25% is determined by the timeliness with which you perform each quiz. There are eleven quiz due dates throughout the semester and for each one a student can earn 1, .5, or 0 points. *You must complete each quiz assignment by 5 pm on the assignment's due date in order to get full credit*. Quiz assignments submitted within one week after the due date will receive 1/2 credit; those later than one week will receive no credit.

At the end of the semester, there will invariably be students whose numerical grade in the course is extremely close to, but just below, a letter-grade cut-off. In order to be fair to all students, however, **we observe a strict policy of not rounding numerical grades to the nearest integer** (and not entertaining requests on an individual basis). There are no opportunities for "extra credit" projects that might boost one's score. Your final grade for the course is determined solely by your performance on the exams and the diligence with which you get your quiz assignments in on time. (The time to start concerning yourself about your grade in the course, therefore, begins on Jan. 22, not on days when exam scores are posted!)

Missing exams, make-ups, and extensions on quiz deadlines: Per University policy, you have two weeks (i.e., until 1/28/10) to make arrangements with the professor about making up an exam due to a conflict (e.g., if you know that you'll be missing class on a particular day due to a trip, a religious observance, etc.). The same policy applies to quizzes. We will not consider requests for make-ups or deadline extensions after 1/28/10 for conflicts that could have been predicted at the beginning of the semester. We are, of course, much more flexible regarding unforeseen circumstances, such as illness or a family emergency.

Monitoring your grade on Learn@UW: After quiz assignments and exams have been graded, you can view your grades and keep track of your progress in the course by clicking on "**Grades**."

Periodic announcements and modifications to the syllabus will also be posted on the course's Learn@UW page.

Section I: Perception and Attention

January 19	1. Introduction/History	Chpt. 1
January 21	2. The Brain	Chpt. 2
January 26	3. Perception: Vision <i>Quizzes 1 and 2 due</i>	pp. 67-87
January 28	4. Perception: Neuropsychology of vision; other sensory modalities	pp. 88-106
February 2	5. A special case of vision: word recognition; Connectionism	pp. 250-259, 453-456
February 4	6. Attention	pp. 107-128
February 9	7. Attention: Spatial cognition; Neuropsychology of attention <i>Quizzes 3, 4, and 5 due</i>	pp. 128-142
February 11	Discussion Day <i>Quizzes 6 and 7 due</i>	
February 16	Exam 1	

Section II: Representation and Memory

February 18	8. Mental Codes: Introduction; Imagery	Chpt. 9
February 23	9. Mental Codes: Cognitive Maps and their neural correlates	Tolman (1948)
February 25	10. Mental Codes: Knowledge-based representations	Chpt. 8
March 2	11. Short-term and Working Memory <i>Quizzes 8, 9, and 10 due</i>	Chpt. 5
March 4	12. Long-term Memory Encoding	Chpt. 6
March 9	13. Long-term Memory Retrieval <i>Quizzes 11 and 12 due</i>	pp. 202-213, 225-230
March 11	14. Cognitive Neuroscience of Memory	pp. 255 (Table 8.4), 260-269
March 16	15. Metacognition & Memory Errors <i>Quizzes 13 and 14 due</i>	pp 213-218
March 18	16. Learning	pp. 218-225
March 23	Discussion Day <i>Quizzes 15 and 16 due</i>	
March 25	Exam 2	

### Section III: High-Level Cognition, Communication, and Cognitive Control

April 6	17. Executive Control	Knight & D'Esposito (2003)
April 8	18. Reasoning	Chpt. 11
April 13	19. Problem Solving	Chpt. 12
April 15	20. Auditory and Speech Perception; Structure Of Language	pp. 442-459, 410-428
	<i>Quizzes 17 and 18 due</i>	
April 20	21. Language Comprehension & Production – <i>guest lecturer Jon Willits</i>	pp. 428-440, 459-470
April 22	22. Gesture – <i>guest lecturer Shanta Hattikudur</i>	Kendon (1994) Iverson & Goldin-Meadow (1998)
	<i>Quizzes 19 and 20 due</i>	
April 27	23. Action and embodiment	Chpt. 10
April 29	24. Consciousness(!)(?)	Postle (2009)
	<i>Quizzes 21 and 22 due</i>	
May 4	Discussion Day	
	<i>Quizzes 23 and 24</i>	
May 6	Exam 3	

#### *Where to take complaints about a Teaching Assistant or Course Instructor:*

*Occasionally, a student may have a complaint about a TA or course instructor. If that happens, you should feel free to discuss the matter directly with the TA or instructor. If the complaint is about the TA and you do not feel comfortable discussing it with him or her, you should discuss it with the course instructor. If you do not want to approach the instructor, make an appointment to speak to the Department Chair, Professor Patricia Devine, by emailing: [chair@psych.wisc.edu](mailto:chair@psych.wisc.edu).*

*If your complaint has to do with sexual harassment, you may also take your complaint to Vicky Lenzlinger, Undergraduate Program Coordinator, phone 262-0512 or email her at [vlenzlinger@psych.wisc.edu](mailto:vlenzlinger@psych.wisc.edu). Her office is located on the second floor of the Psychology building, room 222.*

*If you believe the TA or course instructor has discriminated against you because of your religion, race, gender, sexual orientation, or ethnic background, you also may take your complaint to the Office of Equity and Diversity, room 179-A Bascom Hall, or go to: <http://www.oed.wisc.edu/> <<http://www.oed.wisc.edu/>>.*