PSYC 4316/5316 – *Cognitive Neuroscience* – Fall 2010

The brain – is wider than the sky – For – put them side by side – The one the other will contain
-Emily Dickinson

Instructor: Mark Faust, Ph.D. **Office:** Room 4041, Colvard South
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Office Hours: 12:00 pm – 2:00 pm, TWH, dropping by ***anytime*** during normal business hours ***encouraged***!

Text: ***Cognitive Neuroscience 3rd Ed.***, by Gazzaniga, Ivry, & Mangun
Lecture: TH 2:00 – 3:15, 3066 Colvard

Prerequisites: **PSYC 3313** Physiological Psychology, OR **PSYC 3316** Human Cognitive Processes

Goals:
1) To identify the fundamental concepts driving research in cognitive neuroscience
2) To survey the empirical findings in cognitive neuroscience
3) To become familiar with the techniques used to link brain and cognition
4) To learn to think critically about issues related to the neural basis of cognition

Overview: The course will focus on the neurobiological basis of cognitive processes by which we perceive, allocate attention, process emotional information, set and achieve goals, learn and remember, use language, and control action. We will consider evidence from studies using electrophysiological and brain imaging techniques, individuals with brain injuries, direct neural recordings, and network simulation models. Of central interest will be the ways that knowledge about brain function computational adds to our knowledge of human cognitive processes, and conversely, how knowledge about

Approx. Grading:

Pop Quizzes (7-9, Drop 2 Lowest Grades)……..	10 pts. each
1-2 Short Writing Assignments ……..…….….....	20 pts. each
4 Exams (Drop Lowest Grade) ……...	100 pts. each
Take home Comprehensive Final (Required) ……..……..	50 pts.
Term Paper (Graduate Students Only)…….	N/A

Notes on Grades:

(A) **Final grade** based on percent total points earned. 90%(A), 80%(B), 70%(C), 60%(D), are guaranteed **maximum** criteria. Criteria may be shifted down if distribution of total scores warrants.

(B) Quizzes will not be announced ahead of time, will take approximately 10 - 15 minutes of class time.

(C) NO make-up quizzes or exams will be given. Students can miss 1 exam and 2 pop quizzes, no questions asked, as the lowest exam and 2 lowest pop quiz grades will be dropped.

(D) If, for any reason, you think you might miss a *third* quiz or a *second* exam, consult with the instructor *immediately* (that is, BEFORE the fact)!!

(E) Late homework assignments will lose 10-20% of their possible value (i.e., 2-4 points deducted from a 20 point homework assignment).

(F) While there is no explicit attendance requirement for this course, the high number of pop-quizzes and lack of make-up exams make regular attendance critical.

(G) The 4th exam will be administered during the official final examination period for the course. Take home comprehensive will be due during the official final examination period.

Academic Integrity: UNCC's code of Student Academic Integrity will be followed and enforced in this course. In particular, the following conduct is prohibited: cheating, fabrication and falsification, multiple submissions, plagiarism, abuse of academic materials, and complicity in academic dishonesty. A fuller description of this code can be obtained on p. 275 of the catalogue and complete text of it can be obtained from the Office of the Dean of Students. Violation of the code will result in failure for that activity, possible failure of the course, and possible reporting to Department Chair and Dean. Please see the instructor if you have any questions regarding what constitutes academic dishonesty.

Tentative Schedule :

Week	Date		Topic(s)	Readings
1	Aug.	23	Introduction	Chapter 1
		25	Historical Debates	
2		31	Neural Communication	Chapter 2
	Sept.	2	Neural Communication	
3		7, 9	Functional Anatomy of Cognition	Chapter 3
4		14, 16	Functional Anatomy,. Methods	Chapter 4
5		21, 23	**Exam 1,** Methods	
6		28, 30	Methods, Perception I: Early Visual Processes	Chapter 5
7	Oct.	5	Perception I (cont)	
		7	Perception II: Higher Perceptual Functions	Chapter 6
8		12	**Fall Recess** (NO CLASS)	
		14	Perception II (cont)	
9		19	***Review***, Control of Action	Chapter 7
		21	**Exam 2**	
10		26	Control of Action (cont)	
		28	Control of Action (cont)	
11	Nov.	2	Learning & Memory	Chapter 8
		4	Learning & Memory (cont)	
12		9	Emotion	Chapter 9
		11	Emotion (cont)	
13		16	***Review***, Language	Chapter 10
		18	**Exam 3**	
14		23	Language (cont)	
		25	Thanksgiving Break (NO CLASS)	
15		30	Language (cont), Cognitive Control	Chapter 13
	Dec.	2	Social Cognition	Chapter 14
16		7	***Review & Evaluation***	
Finals		14 (2pm)	**Exam 4, Comprehensive Final Exam (Take Home, Due during final exam)**	

NOTE: **(A)** Unforeseen circumstances may necessitate changes to course policies and schedule of topics. Ample notice will be given for any changes. **(B)** If you have a specific disability that qualifies you for academic accommodation, please notify the instructor and provide certification from the Office of Disability Services, 237 Fretwell, 704-687-4355, www.uncc.edu/dability/.

Term Paper (Graduate Students ONLY)

Graduate students are expected to attend all lectures and to participate in all in-class discussions. They are also expected to take all pop quizzes, the mid-term exams, the 2 short writing assignments, as well as completing the comprehensive take-home final exam. That is, graduate students are expected to complete all the course work assigned to the undergraduates in the course. Additionally, graduate students will write a term paper on an approved topic in Cognitive Neuroscience.

The term paper will consist of a 10 – 15 page review article in standard APA format. Students will turn in a topic proposal by the end of the 7th week (Thursday, Oct. 7th) that will consist of a paragraph explaining the topic, as well as APA-style references to 5 articles/book chapters from the scientific literature. Once the topic, and accompanying references, is approved by the instructor, students will add additional references to a minimum of 10 scientific articles or book chapters. The term paper is due at the final exam period for the course.