HUMAN BRAIN AND BEHAVIOR RELATIONSHIPS
Psychology 504
Fall Semester, 2008

Class Meetings: Tuesdays, 1 to 4 pm, Room 323, Psychology Building
Instructor: Lee Ryan, Ph.D.
Office: Room 217L, Psychology Building
Email: ryant@email.arizona.edu
Office hours: Thursdays, 1 to 3 pm, or please email for appointment

Course description:
This course is designed as an introduction to basic topics in human neuropsychology for graduate students with interests in clinical neuropsychology and cognitive neuroscience. Although there are no prerequisites for the course, knowledge of basic neuroanatomy, neurophysiology, and cognitive psychology is very helpful. The course will begin with an overview of the methods and assumptions of cognitive neuropsychology. We will then review clinical and empirical research concerning damage to the central nervous system affecting various cognitive processes that include language, attention, memory, visual-spatial functioning, problem solving, emotion, and consciousness. Classroom discussions and lectures will utilize both empirical and clinical case materials.

Course website: The syllabus, extra readings, assignments, and quizzes for the course will be available at http://D2L.arizona.edu. D2L will be used for students to hand in written assignments. In addition, I will post any notices regarding changes in schedule, etc. to this site. It is your responsibility to check the D2L site regularly throughout the course.

Required text:

Suggested texts:

Requirements:
1. Regular class attendance and participation in discussions. Assigned readings must be completed prior to class. Discussions will focus on basic concepts and issues raised in the readings.
2. Quizzes to be completed on line. See below for details.
3. Discussion papers. See below for details.
4. A research report. See below for details.
5. An essay format take-home examination. See below.

**Please note:** Comment papers are due by 9am on Monday prior to the class in which they will be discussed (see schedule) and may be delivered through the D2L website only. Please do not leave papers at the main Psychology office.

**Grading:**
Based upon completion of quizzes (10%), discussion papers (30%), research report (30%), and final examination (30%).

**CLASS SCHEDULE AND READINGS**

The following is a *tentative* schedule of topics and readings. The schedule and readings are subject to change and may be reordered during the course of the semester to allow for extended discussions. Readings are available on the D2L website as pdf files for downloading.

**PLEASE SAVE A TREE!!** Every year, universities use millions of tons of paper for course materials. If possible, rather than printing the pdf files on paper, please consider reading your papers on your laptop or PDA. Laptops are welcome in class for note-taking as well.

**Class discussion (see handout for topics)**

**Aug 26** *Introduction to the course, plan, objectives, requirements, and reading assignments.*
For students without a background in human neuroscience, you are encouraged to review chapters 3, 4, 5, 6, 7, 8, 9 and 10 in Kolb & Whishaw (2008).

**Sept 2** *Historical overview and methodological issues*  

**Sept 9** *Cortical organization*  
Kolb & Whishaw, Chapter 3. The organization of the nervous system. Kolb & Whishaw, Chapter 8. Organization of the sensory systems.

**Sept 16** *Motor function*  
**Sept 23**  *Vision and objects*
Kolb & Whishaw, Chapter 13. The occipital lobes.

**Sept 30**  *Space and perception*
Kolb & Whishaw, Chapter 14. The parietal lobes.

**Oct 7**  *Speech, sounds, and faces*
Kolb & Whishaw, Chapter 15. The temporal lobes.

**Oct 14**  *The frontal lobes and disorders of executive function*
Kolb & Whishaw, Chapter 16. The frontal lobes.

**Oct 21**  *Memory*
Kolb & Whishaw, Chapter 18. Learning and memory.

**Oct 28**  *Language*
Kolb & Whishaw, Chapter 19. Language.
Nov 4 Consciousness and attention
Kolb & Whishaw, Chapter 22. Attention, mental images, and consciousness.

Nov 11 No Class – Veteran’s Day

Nov 18 Emotion
Kolb & Whishaw, Chapter 20. Emotion

**Nov 25 Neurological Disorders: Stroke, Epilepsy, TBI

Dec 2 Aging, dementia, and Alzheimer’s Disease

**Dec 9 Rehabilitation

Dec 16 Final exam. The final take-home exam will be available for downloading from the website at 9am on Tuesday Dec. 16th, and will be due no later than Wednesday, Dec. 17th at 4pm.

Course requirements

Quizes. The quizes for each chapter are available on the D2L website. Each chapter quiz will be available until the end of the week in which the topic is covered in class. See the D2L website to check the dates of each quiz.

Discussion papers. Papers are due by 9am on the Monday prior to class. Each paper should be a maximum of two single-spaced pages in length, based on the websites and
readings in the discussion paper handout. Your own opinions are welcome, and feel free to bring into the discussion relevant literature in your own areas of expertise. Where possible, please ensure that you back up your arguments with empirical evidence.

**Research report. Due date: December 2\textsuperscript{nd}, beginning of class (proposal due November 4\textsuperscript{th})**

Students have a choice for the research report. A) You may take one of the discussion paper topics and expand it into an empirically-based research report. B) You may choose another topic that is relevant to cognitive functioning arising from acquired brain injury. In both cases, your report should focus on adult neuropsychology (rather than children). The report (maximum 12 double-spaced pages) should review recent (2000-2008) empirical journal articles relevant to the topic. You are required to send me a proposal for the paper (several paragraphs in an email will do) *no later than November 4\textsuperscript{th}* so that I can provide feedback and approve the topic.

Some examples of other topics are listed below:

- Memory disorders in temporal lobectomy patients.
- Risk taking in patients with frontal lobe lesions.
- Category learning in patients with Huntington’s and Parkinson’s diseases.
- Unawareness of deficit in traumatic brain injured patients.
- Rehabilitation of memory impairment in amnesia.

**Final exam.** The final take-home exam will include short answer questions and essay questions. Examples of essay questions will be provided later in the course. The exam will be made available on the D2L course website at 9am on Tuesday Dec. 16\textsuperscript{th}, and will be due no later than *Wednesday, Dec. 17\textsuperscript{th} at 4pm*. The exams may be delivered to me through the D2L website. **Please note that late exams will not be accepted.**