

## 307 Human Neuropsychology – Fall 2004

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\*\*\* Tuesdays and Thursdays 8:30 - 9:50 a.m. AL 211 \*\*\*

### Teaching Assistant

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Office Hours: Tuesday 10:00am-11:00am, Thursday 1:00pm-2:00pm, or by appointment

**Course Web Page:** [http://www.arts.uwaterloo.ca/~jdanker/hum\\_npsy/hnpsy\\_index.htm](http://www.arts.uwaterloo.ca/~jdanker/hum_npsy/hnpsy_index.htm)

Lecture slides are available in PowerPoint (large files to download), html (to read on-line) and in PDF notes form (these are also large but can be downloaded prior to class)

### Course Description and Aims

This course will provide you with a broad understanding of methods in human neuropsychological research including functional imaging and group and single case lesion studies, as a means of providing a broad understanding of human neuropsychology. Both basic research and clinical examples will be used to explore the brain - behaviour relationships inherent in motor control, language, vision and attention, memory, emotion and executive control. The course will be run in three separate sections with each section examined in class (exams will not be cumulative).

### Assessment

Each section's exam will be a mixture of multiple choice, fill-in-the-blanks diagrams and short answer questions. Each exam will be worth 25% of the final grade (total of 75%). Students will be expected to write a short (5 pages - double spaced including references) scholarly essay on one of the following topics:

- A. Discuss the different ways in which human cognition has been related to human physiology. Are we more advanced than the Egyptians?
- B. How do prismatic lenses influence the presentation of patients with neglect?
- C. What is 'utilization behaviour' and why is it sometimes evident in patients with Alzheimer's disease?
- D. How are human and monkey brains similar? How are they different?

E. Discuss the possible governing principles underlying hemispheric specialization.

This assignment will be worth the final 25% of the final grade. Due date for the assignment is October 28<sup>th</sup>.

### **Course Text**

Banich, M. T. *Cognitive Neuroscience and Neuropsychology*, (2003) Houghton Mifflin Co. New York.

### **Course Outline**

#### **Section 1**

Sep 14<sup>th</sup> Lecture 1 Introduction to Human Neuropsychology

Sep 16<sup>th</sup> Lecture 2 History of Neuropsychology (Handout)

Sep 21<sup>st</sup> Lecture 3 Basic Neuroanatomy (Banich Ch 1)

Sep 23<sup>rd</sup> & 28<sup>th</sup> Lecture 4 and 5 Methods in Human Neuropsychology (Banich Ch 2)

Sep 30<sup>th</sup> & Oct 5<sup>th</sup> Lecture 6 and 7 Hemispheric Specialization (Banich Ch 3)

**\*\*\* Section 1 exam – Oct 7<sup>th</sup> \*\*\***

#### **Section 2**

Oct 12<sup>th</sup> Lecture 8 Neural Basis of Motor Control (Banich Ch 4)

Oct 14<sup>th</sup> Lecture 9 Disorders of Motor Control (Banich Ch 4)

Oct 19<sup>th</sup> Lecture 10 Visual Perception - from eye to brain (no reading)

Oct 21<sup>st</sup> Lecture 11 What vs. How - Perception vs. Action (Handout)

Oct 26<sup>th</sup> Lecture 12 Object Recognition and Visual Agnosia (Banich Ch 5)

Oct 28<sup>th</sup> Lecture 13 Spatial Processing and Optic Ataxia (Banich Ch 6)

Nov 2<sup>nd</sup> Lecture 14 Attention (Banich Ch 7)

Nov 4<sup>th</sup> Lecture 15 Unilateral Neglect (Handout)

**\*\*\* Section 2 exam – Nov 9<sup>th</sup> \*\*\***

#### **Section 3**

Nov 11<sup>th</sup> Lecture 16 Language and Aphasia (Banich Ch 8)

Nov 16<sup>th</sup> & 18<sup>th</sup> Lecture 17 and 18 Memory and Amnesia (Banich Ch 9)

Nov 23<sup>rd</sup> Lecture 19 Neural Basis of Emotion (Banich Ch 11)

Nov 25<sup>th</sup> Lecture 20 The Frontal Lobes and Executive Function (Banich Ch 10)

Nov 30<sup>th</sup> Lecture 21 Psychoses and Dementias (Banich Ch 14)

**\*\*\* Section 3 exam – Dec 2<sup>nd</sup> \*\*\***