

Psychology 479	Human Neuropsychology	Winter 2013
<b>Instructor:</b>	Dr. Andrea B. Protzner	<b>Lecture Location:</b> A 167
<b>Phone:</b>	403-220-5566	<b>Lecture Days/Time:</b> MWF 15:00 - 15:50
<b>Email:</b>	protzner@ucalgary.ca	<b>Lab Location:</b> A 248
		<b>Lab 01:</b> T 13:00 - 14:50
		<b>Lab 02:</b> R 13:00 - 14:50,
<b>Office:</b>	A 030 (Lab A 151)	<b>TA:</b> Sabine Seyffarth
<b>Office Hours:</b>	By appointment	<b>Email:</b> sseyffar@ucalgary.ca

### Course Description and Goals

This course will review major topics in cognitive neuroscience and neuropsychology with an emphasis on human cognitive function and dysfunction. Initial lectures will consist of a general introduction to neuroanatomy, cortical organization and methods used by cognitive neuroscientists. These will be followed by lectures focusing on specific areas of cognitive functioning and related disorders (e.g., attention and neglect; memory and amnesia; language and aphasia, etc). Case reports will be used to illustrate key points and students will be required to examine the relationships between brain, behaviour and cognitive function.

### Prerequisites

Psyc 312 – Experimental Design and Quantitative Methods for Psychology, or  
Psyc 375 – Brain and Behaviour

### Required Text

Banich, M.T. & Compton, R.J. (2011). Cognitive Neuroscience, 3rd edition. Belmont, California: Wadsworth/Cengage Learning. Hard copy available at the University Bookstore (eTextbook also exists).

Supplementary readings were selected to promote recognition and elaboration of pertinent issues and debates in the field of human neuropsychology, and should be obtained from the library if you are interested.

## Evaluation

Course Component:	Weight:
<i>Lecture</i>	
Midterm	25% (W Feb 27)
Approaches and Methods Brain Structure & Function The Agnosias The Apraxias Amnesic Syndromes	
Final Exam	35% (TBA)
Aphasic Syndromes Neglect Syndromes Frontal Lobe Syndromes Aging Affective Disorders Neuropathology and Neuroplasticity	
<i>Lab</i>	
Presentation	15%
Anatomy Quiz #1	10% (During lab: T Feb 12 or R Feb 14)
Anatomy Quiz #2	10% (During lab: T Apr 9 or R Apr 11)
Participation	5%

\* Students must achieve a passing grade on both the class and lab components to pass this course.

### Midterm and Final Exam

The test and final exam will be based on lecture material (textbook readings are intended for reference, in case you do not understand something from lectures), and will not be cumulative. They will consist of multiple-choice questions, fill-in-the-blanks, and short answer questions. The short answer questions will require students to integrate knowledge analytically (i.e., you will be required to show that you have not only memorized course material, but that you understand it).

Please refer to *Absence From A Test/Exam* section in case of absence from the midterm.

### Presentations

A topic will be assigned to each of the weekly laboratories. During the first lab session you will choose a partner from your lab section with whom you would like to present (presentations will be done in groups of two), and choose a topic for your presentation. Your presentation date will depend on the topic that you chose, and will be held during the lab. You will be required to discuss your topic in the context of a case study (or two case studies for the purposes of comparison). The presentation should last half an hour.

If you or your partner are absent on the day of your scheduled presentation, the presentation will be re-scheduled for the week of April 1st during the lab as long as the appropriate documentation is provided (please see *Absence From A Test/Exam* section for documentation to be submitted in case of absence).

Your TA will need to be notified of your absence as early as possible (this should be PRIOR to the start of Lab).

If one of the presenters was absent from his/her scheduled presentation and the appropriate documentation was not provided, the second presenter will present alone on the same assigned topic during the last scheduled lab (appropriate modifications to the presentation can be discussed with your TA).

### Anatomy Quizzes

The anatomy quizzes will be based on lab material and will not be cumulative. They will consist of diagrams and brain images requiring you to label brain regions.

Please refer to *Absence From A Test/Exam* section in case of absence from the midterm.

### Grading Scale

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades. To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., 89.5% will be rounded up to 90% = A but 89.4% will be rounded down to 89% = A-).

### Tentative Lecture Schedule

Date	Topic/Activity/Readings/Due Date
T Jan 8	Introduction to Cognitive Neuroscience -- Approaches and Methods - Chapter 3
W Jan 9	Approaches and Methods continued...
F Jan 11	Approaches and Methods continued...
M Jan 14	Brain Structure & Function – Cortical Specialization & Behavioural Neuroanatomy - Chapter 1 - Price, C.J. & Friston, K.J. (2002). Degeneracy and cognitive anatomy. <i>Trends in Cognitive Sciences</i> , 6(10), 416-421.
W Jan 16	Brain Structure & Function continued...
F Jan 18	Brain Structure & Function continued...
M Jan 21	The Agnosias -- Disorders of Sensory Functioning - Chapter 7 - Ungerleider, L.G., & Haxby, J.V. (1994). 'What and where' in the human brain. <i>Current Opinion in Neurobiology</i> , 4(2), 157-165.
W Jan 23	The Agnosias continued...
F Jan 25	The Agnosias continued...
M Jan 28	The Apraxias -- Disorders of Motor Control

	<ul style="list-style-type: none"> <li>- Chapter 5</li> <li>- de Dreu, M.J., van der Wilk, A.S.D., Poppe, E., Kwakkel, G., &amp; van Wegen, E.E.H. (2012). Rehabilitation, exercise therapy and music in patients with Parkinson's disease: a meta-analysis of the effects of music-based movement therapy on walking ability, balance and quality of life. <i>Parkinsonism and Related Disorders</i>, 18(S1), S114–S119.</li> </ul>
W Jan 30	The Apraxias continued...
F Feb 1	The Apraxias continued...
M Feb 4	<p>Amnesic Syndromes -- Memory Disorders</p> <ul style="list-style-type: none"> <li>- Chapter 10</li> <li>- Rosenbaum, R.S., Kohler, S., Schacter, D.L., Moscovitch, M., Westmacott, R., Black, S.E., Cao, F., Tulving, E. (2005). The case of K.C.: contributions of a memory-impaired person to memory theory. <i>Neuropsychologia</i>, 43(7): 989-1021.</li> </ul>
W Feb 6	Amnesic Syndromes continued...
F Feb 8	Amnesic Syndromes continued...
M Feb 11	<p>Amnesic Syndromes continued...</p> <p><b>Anatomy Quiz 1, held during lab</b></p>
W Feb 13	<p>Aphasic Syndromes – Language disorders</p> <ul style="list-style-type: none"> <li>- Chapter 9</li> <li>- Saygin, A.P., Dick, F., Wilson, S.W., Dronkers, N.F., Bates E. (2003). Neural resources for processing language and environmental sounds: Evidence from aphasia. <i>Brain</i>, 126(4): 928-45.</li> </ul>
F Feb 15	Aphasic Syndromes continued...
M Feb 18	Family Day. No Lecture. University Closed
W Feb 20	Reading Week. No Lecture
F Feb 22	Reading Week. No Lecture
M Feb 25	No class -- office hours during class time
W Feb 27	<b>Midterm, held during class time</b>
F Mar 1	Aphasic Syndromes continued...
M Mar 4	No class (I am away at a conference)
W Mar 6	No class (I am away at a conference)
F Mar 8	No class --There is a very interesting HBI lecture that you should attend instead!
M Mar 11	<p>Neglect Syndromes -- Attention-Based Disorders</p> <ul style="list-style-type: none"> <li>- Chapter 11</li> <li>- Posner, M., &amp; Petersen, S. (1990). The attention system of the human brain. <i>Annual Review of Neuroscience</i>, 13, 25-42.</li> </ul>
W Mar 13	Neglect Syndromes continued...
F Mar 15	Neglect Syndromes continued...
M Mar 18	<p>Frontal Lobe Syndromes -- Executive Function</p> <ul style="list-style-type: none"> <li>- Chapter 12</li> <li>- Stuss, D.T., &amp; Alexander, M.P. (2000). Executive functions and the frontal lobes: a conceptual view. <i>Psychological Research</i>, 63(3-4), 289-298.</li> <li>- D'Esposito, M., Cooney, J.W., Gazzaley, A., Gibbs, S.E., &amp; Postle, B.R. (2006). Is</li> </ul>

	the prefrontal cortex necessary for delay task performance? Evidence from lesion and fMRI data. Journal of the International Neuropsychological Society, 12(2), 248-260.
W Mar 20	Frontal Lobe Syndromes continued...
F Mar 22	Frontal Lobe Syndromes continued...
M Mar 25	Aging - Chapter 15, p. 459-464; Chapter 16 p. 471-488 - Grady, C.L., McIntosh, A.R., Beig, S., Keightley, M.L., Burian, H., Black, S.E. (2003) Evidence from functional neuroimaging of a compensatory prefrontal network in Alzheimer's disease. J Neurosci 23, 986-993. - Protzner, A.B., Mandzia, J.L., Black, S.E., & McAndrews, M.P. (2011). Network interactions explain effective encoding in the context of medial temporal damage in MCI. Human Brain Mapping, 32(8): 1277-1289.
W Mar 27	Aging continued...
F Mar 29	Good Friday – No Lectures, University Closed
M Apr 1	Aging continued...
W Apr 3	Affective Disorders -- Depression & Neuropsychiatric Syndromes - Chapter 14 - Holtzheimer PE, Mayberg HS. (2011) Stuck in a rut: rethinking depression and its treatment. Trends Neurosci. 34(1):1-9. - Mayberg HS, Lozano AM, Voon V, McNeely HE, Seminowicz D, Hamani C, et al. (2005) Deep brain stimulation for treatment-resistant depression. Neuron. 45(5):651-60.
F Apr 5	Affective Disorders continued...
M Apr 8	Neuropathology and Neuroplasticity - Chapter 15, p.451-459 - Chen, A.J.-W., Novakovic-Agopian, T., Nycum, T.J., Song, S., Turner, G.R., Hills, N.K., Rome, S., Abrams, G.M., D'Esposito, M. (2011) Training of goal-directed attention regulation enhances control over neural processing for individuals with brain injury. Brain 134(5), 1541-1554. <b>Anatomy Quiz 2, held during lab</b>
W Apr 10	Neuropathology and Neuroplasticity continued...
F Apr 12	Neuropathology and Neuroplasticity continued...
M Apr 15	No class -- office hours during class time
T Apr 16	Winter Term Lectures End. Last day to withdraw from courses.
F Apr 19-30	Winter Term Final Exams

### Reappraisal of Grades

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded, may have the work re-graded as follows. The student shall discuss the work with the instructor within 15 days of being notified about the mark or of the item's return to the class. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 15 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision

and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 15 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed, the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

### **Plagiarism and Other Academic Misconduct**

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

### **Academic Accommodation**

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than 14 days after the start of this course.

### **Absence From A Test/Exam**

Makeup tests/exams are NOT an option without an official University medical excuse (see the University Calendar). A completed Physician/Counselor Statement will be required to confirm absence from a test/exam for health reasons; the student will be required to pay any cost associated with this Statement. Students who miss a test/exam have 48 hours to contact the instructor and to schedule a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Except in extenuating circumstances (documented by an official University medical excuse), a makeup test/exam must be written within 2 weeks of the missed test/exam.

### **Freedom of Information and Protection of Privacy (FOIP) Act**

The FOIP legislation disallows the practice of having student's retrieve tests and assignments from a public place. Therefore, tests and assignments may be returned to students during class/lab, or during office hours, or via the Department Office (Admin 275), or will be made available only for viewing during exam review sessions scheduled by the Department. Tests and assignments will be shredded after one year. Instructors should take care to not link students' names with their grades, UCIDs, or other FOIP-sensitive information.

### **Course Credits for Research Participation (Max 2% of final grade)**

Students in most psychology courses are eligible to participate in Departmentally approved research and earn credits toward their final grades. **A maximum of two credits (2%) per course, including this course, may be applied to the student's final grade. Students earn 0.5% (0.5 credits) for each full 30 minutes of participation.** The demand for timeslots may exceed the supply in a given term. Thus, students are not guaranteed that there will be enough studies available to them to meet their credit requirements. Students should seek studies early in the term and should frequently check for open timeslots. Students can create an account and participate in Departmentally approved research studies at <http://ucalgary.sona-systems.com>. The last day to participate in studies and to assign or reassign earned credits to courses is **Apr 16<sup>th</sup>, 2013**

### **Evacuation Assembly Point**

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at <http://www.ucalgary.ca/emergencyplan/assemblypoints>. Please check this website and note the nearest assembly point for this course.

### **Student Organizations**

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 170 and may be contacted at 403-220-5567.

**Student Union VP Academic:** Phone: 403-220-3911 [suypaca@ucalgary.ca](mailto:suypaca@ucalgary.ca)  
**Student Union Faculty Rep.:** Phone: 403-220-3913 [socialscirep@su.ucalgary.ca](mailto:socialscirep@su.ucalgary.ca)

### **Important Dates**

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **January 18, 2013**. Last day for registration/change of registration is **January 21, 2013**. The last day to withdraw from this course is **Apr 16<sup>th</sup>, 2013**.