



Department of Psychology
Psychology 521 (L01) – Cognitive and Clinical Neuroscience
Winter 2010 – Course Outline

Instructor:	Dr. Giuseppe Iaria	Lecture Location:	SH 288
Phone:	(403)-220-8482	Lecture Days/Time:	M/W/F 11:00 - 11:50
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Office Hours:	TBA		

Course Description and Goals

The course provides an overview of the latest research investigating brain mechanisms underlying some of the cutting-edge topics in cognitive neuroscience. At the outset, students will be introduced to basic concepts of cognitive neuroscience and the range of techniques used with both healthy subjects and clinical populations. In subsequent weeks, classes will consist of detailed introductions to specific topics, student presentations and class discussion of scientific literature. The goal is for students to acquire knowledge of selected topics in cognitive neuroscience and to develop critical thinking skills when evaluating scientific literature.

Prerequisites

Psyc 312 (Experimental Design & Quantitative Method) and Psyc 375 (Brain and Behaviour), or consent of the Department.

Required Text

There are no required textbooks for this course. The course material consists of selected articles that will be available on the course website (<https://blackboard.ucalgary.ca>).

The following text is available at the University Bookstore for students who would like to have additional basic knowledge in Cognitive Neuroscience:

Gazzaniga, M.S., Ivry, R. B., Mangun, J.R. (2009). *Cognitive Neuroscience: The Biology of the Mind* (3rd Ed.). New York, NY: W. W. Norton & Company.

Evaluation

Student evaluations will be based on one presentation, one leading discussion related to a selected article, and one term paper (topic selected by students). Missed or late assignments without proper documentation will receive 0%.

A. Presentation (30% of final grade). During the first week, students will be asked to select a date (and accordingly a topic according to the course schedule) for delivering their presentation. Students will present singly or in groups depending on class size, and assigned at random if the number of dates and topics chosen voluntarily do not cover the entire course schedule. The presentation should be in the format of PowerPoint slides and examine in detail one journal article (available on the course website) related to the topic of the week. The length

of each presentation will be approximately 40 minutes, followed by a 10 minute class discussion.

As a guideline, each presentation should include: (1) a brief overview of the subject of the article, (2) the main question that the article aims to address, the relevance of it in the context of the topic of the week, and the authors' hypothesis, (3) a detailed description of the methods and procedure used, (4) the results of the study, (5) the authors' interpretation of the results, (6) the authors' general conclusion, (7) the student's observations about the study (including merits and/or limits of the experimental approach used), and (8) the student's suggestions for future studies given the findings provided in the article.

Students are encouraged to read additional research as needed and/or to prepare material (such as handouts or prepared questions) in order to engage the class and stimulate relevant discussion. In order to actively participate in the discussion, students attending should read the article presented as well as additional material related to that topic in advance of the class. Evaluation is based on creativity, clarity, accuracy and completeness of the presentation, as well as success in engaging colleagues' participation in class discussion.

B. Leading discussion (30% of final grade). The format of the leading discussion is similar to the presentation with the exception that there will be no slides to be presented to the class. Students will be asked to select a date (and accordingly a topic according to the course schedule) for discussing a given article. Students will outline the content of the article and prepare questions to stimulate class discussion. Presentation and leading discussion may occur singly or in groups depending on class size, and assigned at random if the number of dates and topics chosen voluntarily do not cover the entire course schedule. Evaluation is based on clarity, accuracy and completeness of the article presented, as well as success in engaging colleagues' participation in class discussion.

C. Term paper (40% of final grade). Each student will write a term paper consisting of a research proposal. The paper can focus on any topic covered during the course (preferred) or a topic that students may be particularly interested in. The topic chosen for the term paper can be the same as that chosen (or assigned) for the presentation. Students are required to formulate one or two experiments that would make an original contribution to the literature/topic that the paper focuses on. Term paper topics must be pre-approved by the professor (during office hours) and papers (in Word format) may be submitted by email at any time during the course, but no later than April 15, 2010.

The content of the paper must be organized into the following sub-headings: (1) Title, (2) Abstract (150 words maximum), (3) Topic/literature overview, (4) Proposal, (5) Methods, (6) Analyses, (7) Results, (8) Implications and conclusions, (9) References (minimum 10). The body of the paper (excluding title page and reference list) must not exceed 15 pages (double-spaced, 12 pt Times font) and must be written in APA format. No figures or tables should be included in the paper.

Evaluation is based on clarity, accuracy and completeness. Special consideration will be given to the originality of the proposal.

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-).

Lecture Schedule

Date	Topic
M Jan 11	Lectures begin - Introduction to the course.
W Jan 13	History of cognitive neuroscience.
F Jan 15	Principles of cognitive neuroscience.
M Jan 18	Methods: EEG, ERP, MEG, TMS, and others.
W Jan 20	Methods: Structural MRI.
F Jan 22	Methods: functional MRI. (Last day to drop a course with no W grade and tuition refund)
M Jan 25	Topic 1 - Human topographical orientation (TO) <i>Students' presentation</i>
T Jan 26	(Last day for registration/change of registration)
W Jan 27	Topic 1 - Human topographical orientation (TO) <i>Students' discussion</i>
F Jan 29	Topic 1 - Human topographical orientation (TO) <i>Topic debrief and class discussion</i>
M Feb 1	Topic 1 - Topographical disorientation (TD) <i>Students' presentation</i>
W Feb 3	Topic 1 - Topographical disorientation (TD) <i>Students' discussion</i>
F Feb 5	Topic 1 - Topographical disorientation (TD) <i>Topic debrief and class discussion</i>
M Feb 8	Topic 2 - Face processing (FP) <i>Students' presentation</i>
W Feb 10	Topic 2 - Face processing (FP) <i>Students' discussion</i>
F Feb 12	Topic 2 - Face processing (FP) <i>Topic debrief and class discussion</i>
M Feb 15	Reading Days. No lectures.
W Feb 17	Reading Days. No lectures.
F Feb 19	Reading Days. No lectures.
M Feb 22	Topic 2 - Prosopagnosia (PROS) <i>Students' presentation</i>
W Feb 24	Topic 2 - Prosopagnosia (PROS) <i>Students' discussion</i>
F Feb 26	Topic 2 - Prosopagnosia (PROS) <i>Topic debrief and class discussion</i>
M Mar 1	Topic 3 – Neuroplasticity in healthy individuals (NeuroH) <i>Students' presentation</i>
W Mar 3	Topic 3 – Neuroplasticity in healthy individuals (NeuroH) <i>Students' discussion</i>
F Mar 5	Topic 3 – Neuroplasticity in healthy individuals (NeuroH) <i>Topic debrief and class discussion</i>
M Mar 8	Topic 3 - Neuroplasticity in brain-damaged patients (NeuroP) <i>Students' presentation</i>

W Mar 10	Topic 3 - Neuroplasticity in brain-damaged patients (NeuroP) <i>Students' discussion</i>
F Mar 12	Topic 3 – Neuroplasticity in brain-damaged patients (NeuroP) <i>Topic debrief and class discussion</i>
M Mar 15	Topic 4 - The healthy emotional brain (EmoH) <i>Students' presentation</i>
W Mar 17	Topic 4 - The healthy emotional brain (EmoH) <i>Students' discussion</i>
F Mar 19	Topic 4 - The healthy emotional brain (EmoH) <i>Topic debrief and class discussion</i>
M Mar 22	Topic 4 - The damaged emotional brain (EmoP) <i>Students' presentation</i>
W Mar 24	Topic 4 - The damaged emotional brain (EmoP) <i>Students' discussion</i>
F Mar 26	Topic 4 - The damaged emotional brain (EmoP) <i>Topic debrief and class discussion</i>
M Mar 29	Topic 5 - The neural mechanisms of consciousness (Cosc) <i>Students' presentation</i>
W Mar 31	Topic 5 - The neural mechanisms of consciousness (Cosc) <i>Students' discussion</i>
F Apr 2	Good Friday. No lectures. University closed.
M Apr 5	Topic 5 - The neural mechanisms of consciousness (Cosc) <i>Topic debrief and class discussion</i>
W Apr 7	Topic 5 - The affected consciousness (AffConsc) <i>Students' presentation</i>
F Apr 9	Topic 5 - The affected consciousness (AffConsc) <i>Students' discussion</i>
M Apr 12	Topic 5 - The affected consciousness (AffConsc) <i>Topic debrief and class discussion</i>
W Apr 14	Term paper discussion
R Apr 15	Last day to participate in research and allocate research credits
F Apr 16	Winter Session Lectures end. Last day to withdraw. Term paper discussion.

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.

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 (2) 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 **April 15, 2010**.

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
Student Union Faculty Rep.: Phone: 403-220-3913 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 **Jan 22nd, 2010**. Last day for registration/change of registration is **Jan 26th, 2010**. The last day to withdraw from this course is **Apr 16th, 2010**.