



**Department of Psychology**

**Psychology 501.21 (L01) – Special Topics Seminar  
Using Cognitive Neuropsychology to Study Consciousness and Cognition  
Fall Session 2007**

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<b>Instructor</b>	Dr. Glen Bodner	<b>Lecture Location</b>	Admin 253
<b>Phone</b>	220-2714 (no callback)	<b>Lecture Days/Time</b>	M 2-4:50 pm
<b>Email</b>	bodner@ucalgary.ca	<b>Office Hours</b>	M before/after class
<b>Office</b>	Admin 258		

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**Course Description and Goals**

The goal of this seminar is to see what we can learn about consciousness and cognitive processes using cognitive neuropsychology, especially the effects of brain injury and psychological disorders. The cognitive processes we will try to learn about may include object and person recognition, memory, dreaming, sensory processing, spatial processing, and motor processing. To this end we may examine several cognitive neuropsychological phenomena, including apperceptive agnosia, associative agnosia, category-specific agnosia, prosopagnosia, Capgras syndrome, Fregoli syndrome, amnesia, Alzheimer's disease, lucid dreaming, hypnosis, meditation, split-brain and hemispherectomy patients, Charles Bonnet syndrome, Anton's syndrome, blindsight, sensory substitution in the blind, synesthesia, out-of-body experiences, phantom limbs, spatial neglect, anosognosia, alien hand syndrome, transcranial magnetic stimulation, Libet's free will studies, subliminal priming of free choices, schizophrenia, dissociative identity disorder, and depersonalization disorder. In each case, we will also aim to understand what happens to a person's conscious experience. Presentations and participation will be key components.

**Required Text**

No text.

**Evaluation**

**A. Presentations 1-2 (15% x 2 = 30%).** Using PowerPoint, review the research you have found on your chosen topic. Your goal is to try to understand how relevant cognitive processes and conscious experience are affected by the phenomenon at hand. Propose one or more experiments in detail that would further our understanding. Be interesting and informative, and aim to create relevant discussion during and after your presentation. Presentation dates will be scheduled during the first class. Class size will determine presentation durations. Missed presentations receive 0% unless a documented excuse deemed valid by me is provided within 1 week, in which case the weight will be added to the other presentation (or to another evaluation component chosen at random if the second presentation is missed). A paper on the chosen topic is still expected if a presentation is missed (see B).

**B. Papers 1-2 (20% x 2 = 40%).** You will write two papers, one on each of your presentation topics. The goal of each paper is to convey what we can learn about cognitive processes and/or conscious experience from the phenomenon at hand, and to specify one or more experiments in detail that would further our understanding. Each is due one week after your presentation. Your papers must be in APA format, double-spaced, 1" margins, in 12 pt Times font, and stapled (no binders/clips). The body will be a maximum of 10 double-spaced pages. Late penalty is 2% (out of 20%) per day.

Your report must include the following:

*Title Page.* Choose a catchy and informative title.

*Abstract (150 words maximum).* What is the topic? What will we learn from it? Why is it important?

*Body (maximum 10 pages).* Include section headings. Each paragraph should be of a reasonable length and should have a beginning, a middle, and an end. Each paragraph should transition smoothly to the next paragraph. Each section should transition smoothly to the next section.

*References (minimum 8 relevant references).* Reference in the text and in reference list all primary sources cited in your paper.

*Tables/Figures (optional).* Include original APA-formatted tables or figures if desired.

**C. Thoughts (2% x 10 = 20%).** Using the **ThoughtPage.doc** template posted on Blackboard, I would like to read your best thought about one of the presentations each week. It could be an alternative interpretation of a finding, a new theory, a proposal for a study, a new connection to another topic, etc. Each should be 1 single-spaced page. Each is due the week following a given set of presentations. If you miss a class, you must still submit a thought page. Late thought pages will receive 0%. Your lowest thought page grade will be replaced with your highest thought page grade at the end of term.

**D. Participation (10%).** The quality and frequency of your contributions to in-class discussions will be evaluated. You will receive 0% if you never participate in class discussions.

### 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%

Final grades will rounded up to the nearest whole percent at the end of the term (e.g., 89.5% = 90% but 89.4% = 89%). Final grades will not be raised to help you meet a higher cut-off, but you can add 2% to your final grade via research participation during the term.

### Topics and Class Schedule

#### Sept 10: Introduction to course and presentation scheduling

#### Sept 17: Object recognition

- apperceptive (perceptual) agnosia: failure to form a visual percept of objects
- associative (meaning) agnosia: failure to assign meaning to objects
- category-specific object agnosia

#### Sept 24: Person recognition

- prosopagnosia: failure to recognize faces
- Capgras syndrome: belief that others have been replaced with imposters
- Fregoli syndrome: belief that others are a single person

#### Oct 1: Memory

- retrograde amnesia: impaired memory for events from before onset
- anterograde amnesia: impaired memory for events occurring after onset
- Alzheimer's disease
- coma
- anesthesia

#### Oct 15: Sleep and borderlands

- sleepwalking
- lucid dreaming
- hypnosis
- meditation

**Oct 22: Brain hemispheres**

- split-brains
- hemispherectomy patients

**Oct 29: Vision**

- Charles Bonnet syndrome: hallucinations due to visual impairments
- Anton's syndrome: delusion of being able to see when cortically blind
- blindsight: ability to detect motion though blind
- sensory substitution in the blind

**Nov 5: Senses**

- synesthesia: blending of senses
- out-of-body experiences
- phantom limbs: sensation/pain in missing limb

**Nov 19: Space and movement**

- spatial (hemifield/unilateral) neglect: neglect of left side of space and/or objects
- anosognosia: denial or lack of awareness of handicap
- alien hand syndrome: lack of control over or awareness of motor movements

**Nov 26: Manipulating and measuring consciousness**

- using transcranial magnetic stimulation (TMS) to study cognition and consciousness
- Libet's free will studies
- subliminal priming of free choices

**Dec 3: Clinical disorders**

- schizophrenia
- dissociative identity disorder
- depersonalization disorder

**University of Calgary Curriculum Objectives**

University of Calgary Core Competencies	Curriculum Redesign Features
Critical/creative thinking: A-D (see above)	A defined interdisciplinary component: N/A
Analysis of problems: A-D	An international component: N/A
Effective oral /written communication: A-D	An experiential learning component relevant to the program objectives: N/A
Gathering/organizing information: A-D	Broad and extended faculty-student interaction at the program level: N/A
Logical calculation, mathematical ability: N/A	Integration of research: A-D
Abstract reasoning and its applications: A-D	
Insight/intuition in generating knowledge: A-D	
Interpretive/assessment skills: A-D	

**Reappraisal of Grades**

A student who feels that a piece of graded term work (term paper, essay, test, etc.) 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 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.

### **Course Credits for Research Participation**

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 an individual's final grade. Students can create an account and access the Research Participation System website at <http://ucalgary.sona-systems.com>. The last day to participate in research is December 6, 2007.

### **Student Organizations**

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

**Student Union VP Academic:** Phone: 220-3911 [suypaca@ucalgary.ca](mailto:suypaca@ucalgary.ca)

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

### **Important Dates**

The last day to drop this course and still *receive a fee refund* is September 21, 2007. The last day to withdraw from this course is December 7, 2007.