

**Research in Cognition and Perception  
Psychology 394  
Winter 2007**

**Instructor:** Derek Besner

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**Office Hours:** If you want to set up a meeting or ask questions outside of class, then I welcome you e-mailing me ([dbesner@watarts.uwaterloo.ca](mailto:dbesner@watarts.uwaterloo.ca)) or coming to my office (I'm happy to see students in my office at most times, or, failing that, to set up a time to meet). You can always email me with questions (including most nights and weekends). I try and answer all questions within several hours.

Section 1	Section 2
<b>Class Location:</b> PAS 4288 <b>Time:</b> 10:30-12:20, Tues. & Thurs. <b>Teaching Assistant:</b> Karl Borgmann <b>E-mail:</b> <a href="mailto:kwuborgm@watarts.uwaterloo.ca">kwuborgm@watarts.uwaterloo.ca</a> <b>Office:</b> PAS 4044 <b>Office Hours:</b> Monday 1-2 (or by appointment)	<b>Class Location:</b> PAS 4288 <b>Time:</b> 2:30-4:20, Tues. & Thurs. <b>Teaching Assistant:</b> Evan Risko <b>E-mail:</b> <a href="mailto:efrisko@watarts.uwaterloo.ca">efrisko@watarts.uwaterloo.ca</a> <b>Office:</b> PAS 4211 <b>Office Hours:</b> Friday 10-11 (or by appointment)

## **Course Objective**

The objective of this course is to introduce the student to some of the basic methodology involved in typical psychological research in the content area of cognition and perception. The main emphasis is on preparing the student to critically evaluate different types of published research (e.g., standard reports of experiments on intact subjects involving simple or factorial designs; single case studies of brain damaged patients). Journal articles will be studied to see what they can tell us about research methodology, and the interaction between theory development and the process of experimentation.

To put it another way, the goals are to teach you how to:

- (1) Read a paper in the content area of cognitive processes
- (2) Better understand design problems, statistical issues, and underlying assumptions often not made explicit in the literature
- (3) Tell people about what you have read in a way that is clear and concise.
- (4) Hopefully, get you to better understand and appreciate some of what it is that cognitive psychologists do, and to understand that, with training and guidance, it is possible to do high quality research.

## **Course Components and Grading Scheme**

### **1. Presentation(s) and Participation (15%)**

We will examine, in class, a number of published journal articles. Each student will present *at least* one such article to the class. You are expected to give a considerable amount of care and attention to the preparation of your presentation. It must be concise,

but you are the resource expert for the paper that you are presenting. In other words, you should have a lot of the details of the paper at your fingertips (i.e., in memory) in the event that a question is asked (e.g., how many subjects were tested? were the conditions blocked or randomized? was factor Y significant in the analysis as a main effect? was there feedback after every trial? etc). **However, please avoid going into too much detail during your presentation.** There should be enough detail that your audience can understand:

- (1) what question was investigated
- (2) what the experiment consisted of (i.e., explain what was actually manipulated, and how the experiment was done)
- (3) what the predictions were
- (4) what the data are (that is, please SHOW us the data)
- (5) what the analysis of this data said (without specifying the size of the F, or the degrees of freedom)
- (5) how the data fit or do not fit with the theoretical hypotheses.

By “class participation” I mean being responsive to what is going on in the class. For example, listening attentively when students are presenting papers such that you can answer questions about what they are saying. **Be prepared to answer questions in class with respect to the ongoing discussion.**

## 2. Weekly Quizzes (25%)

There will be a short 10 question multiple choice quiz on Thursday of each week. There is no quiz on the days we have tests.

## 3. Tests (60%)

There will be three tests. These tests will take place on **Thursday January 25** and **Thursday March 1, and Thursday March 29**. The tests are not cumulative.

## TENTATIVE Schedule and Assigned Readings

The course has no textbook. Our readings consist of source materials (i.e., journal articles).

Date	Topics and Articles
Thursday January 4	Review the syllabus and assign presentations
Tuesday January 9	<p><b>Presented by:</b> _____</p> <p>Raz, A., Shapiro, T., Fan, J., &amp; Posner, M.I. (2002). Hypnotic suggestion and the modulation of Stroop interference. <i>Archives of General Psychiatry</i>, 59, 1155–1161.</p> <p><b>Presented by:</b> _____</p> <p>Raz, A., Kirsch, I., Pollard, J., &amp; Nitkin-Kaner, Y. (2006). Suggestion reduces the Stroop effect. <i>Psychological Science</i>, 17, 91–95.</p>
Thursday January 11	<p><b>Presented by:</b> _____</p> <p>Iani, C., Ricci, F., Gherri, E., &amp; Rubichi, S. (2003). Hypnotic suggestion modulates cognitive conflict: The case of the flanker compatibility effect. <i>Psychological Science</i>, 17, 721-727.</p>

**QUIZ**

	<p><b>Presented by:</b> _____  Paquet, L. (2001). Eliminating flanker effects and negative priming in the flankers task: Evidence for early selection. <i>Psychonomic Bulletin and Review</i>, 8, 301-306.</p>
Tuesday January 16	<p><b>Presented by:</b> _____  Raz, A., Fan, J., &amp; Posner M.I. (2005). Hypnotic suggestion reduces conflict in the human brain. <i>Proceedings of the National Academy of Sciences</i>, 102, 9978–9983.</p>
Thursday January 18 <b>QUIZ</b>	<p><b>Presented by:</b> _____  Johnston, J. C. McCann, R. S. Remington, R. W.(1995).Chronometric evidence for two types of attention. <i>Psychological Science</i>, 36, 365-369.</p>
Tuesday January 23	<p><b>Presented by:</b> _____  Levy, J., Pashler, H, &amp; Boer, E (2006). Central Interference in Driving: Is There Any Stopping the Psychological Refractory Period? <i>Psychological Science</i>, 17, 3, 228-235.  <b>Presented by:</b> _____  Lien, M. L., Ruthruff, E., &amp; Johnston, J. C. (2006). Attentional limitations in doing two tasks at once: The Search for Exceptions. <i>Current Directions in Psychological Science</i>, 15, 89 – 93.</p>
Thursday January 25	<b>TEST 1</b>
Tuesday January 30	<p><b>Presented by:</b> _____  Rensink, O’Regan, &amp; Clark. (1997). To see or not to see: The need for attention to perceive changes in scenes. <i>Psychological Science</i>, 8, 368–373.  <b>Presented by:</b> _____  Levin, &amp; Simons. (1997). Failure to detect changes to attended objects in motion pictures. <i>Psychonomic Bulletin &amp; Review</i>, 4, 501–506.</p>
Thursday February 1 <b>QUIZ</b>	<p><b>Presented by:</b> _____  Simons, &amp; Levin. (1998). Failure to detect changes to people in a real-world interaction. <i>Psychonomic Bulletin &amp; Review</i>, 5, 644–649.</p>
Tuesday February 6	<p><b>Presented by:</b> _____  Smilek D, Eastwood JD, &amp; Merikle PM. (2000). Does unattended information facilitate change detection? <i>Journal of Experimental Psychology: Human Perception and Performance</i>, 26, 480–487.  <b>Presented by:</b> _____  Stolz, J. A., &amp; Jolicoeur, P. (2004). Changing features do not guide attention in change detection: Evidence from a spatial cuing paradigm. <i>Psychonomic Bulletin &amp; Review</i>, 11, 870-875.</p>
Thursday February 8 <b>QUIZ</b>	<p><b>Presented by:</b> _____  Masuda, T., &amp; Nisbett, R. E. (2006). Culture and Change Blindness. <i>Cognitive Science</i>, 30, 381-399.</p>
Tuesday February 13	<p><b>Presented by:</b> _____  Dixon, M.J., Smilek, D., Cudahy, C., Merikle, P.M. (2000). Five plus two equals</p>

	<p>yellow: Mental arithmetic in people with synaesthesia is not coloured by visual experience. <i>Nature</i>, 406, 365.</p> <p><b>Presented by:</b> _____</p> <p>Myles, K. M., Dixon, M. J., Smilek, D., &amp; Merikle, P. M. (2003). Seeing double: The role of meaning in alphanumeric-colour synaesthesia. <i>Brain &amp; Cognition</i>, 53, 342–345.</p>
<p>Thursday February 15 <b>QUIZ</b></p>	<p><b>Presented by:</b> _____</p> <p>Daniel Smilek, D., Malcolmson, K. A., Carriere, J.S.A., Eller, M., Kwan, D &amp; Reynolds, M. (in press). When “3” is a Jerk and “0” is a King: Personifying Inanimate Objects in Synaesthesia. <i>Journal of Cognitive Neuroscience</i>.</p>
<p>Tuesday February 20 &amp; Thursday 22</p>	<h2>READING WEEK</h2>
<p>Tuesday February 27</p>	<p><b>Presented by:</b> _____</p> <p>Rayner, K., &amp; Johnson, R. L. (2005). Letter-by-letter acquired dyslexia is due to the serial encoding of letters. <i>Psychological Science</i>, 16, 530–534.</p> <p><b>Presented by:</b> _____</p> <p>Fiset, D., Arguin, M., Bub, D. N., Humphreys, G. W., &amp; Riddoch, J. N. (2005). How to make the word length effect disappear in letter-by-letter dyslexia: Implications for an account of the disorder. <i>Psychological Science</i>, 16, 535–541.</p>
<p>Thursday March 1</p>	<h2>TEST 2</h2>
<p>Tuesday March 6</p>	<p><b>Presented by:</b> _____</p> <p>Ramachandran VS. (1995). Anosognosia in parietal lobe syndrome. <i>Consciousness &amp; Cognition</i>, 4, 22–51.</p>
<p>Thursday March 8 <b>QUIZ</b></p>	<p><b>Presented by:</b> _____</p> <p>Goodale, Milner, Jakobson, &amp; Carey. (1991). A neurological dissociation between perceiving objects and grasping them. <i>Nature</i>, 349, 154-156.</p>
<p>Tuesday March 13</p>	<p><b>Presented by:</b> _____</p> <p>Goodale, Meenan, Bulthoff, Nicolle, Murphy, &amp; Racicot. (1994). Separate neural pathways for the visual analysis of object shape in perception and prehension. <i>Current Biology</i>, 4, 604-610.</p> <p><b>Presented by:</b> _____</p> <p>Aglioti, DeSouza, &amp; Goodale.(1995). Size-contrast illusions deceive the eye but not the hand. <i>Current Biology</i>, 5, 679-685.</p>
<p>Thursday March 15 <b>QUIZ</b></p>	<p><b>Presented by:</b> _____</p> <p>Funnell, E. (1983). Phonological processes in reading: New evidence from acquired dyslexia. <i>British Journal of Psychology</i> 74, 159-180.</p>
<p>Tuesday March 20</p>	<p><b>Presented by:</b> _____</p> <p>Coltheart, Byng, Masterson, Prior, &amp; Riddoch. (1983). Surface dyslexia. <i>Quarterly Journal of Experimental Psychology</i>, 35A, 481-495.</p>

Thursday March 22 <b>QUIZ</b>	<b>Presented by:</b> _____ Rumiati, R.I., Humphreys, G.W., Riddoch, J.M. & Bateman, A. (1994). Visual object agnosia without prosopagnosia or alexia: Evidence for hierarchical theories of visual recognition. <i>Visual Cognition, 1</i> , 181-225.
Tuesday March 27	<b>Presented by:</b> _____ Moscovitch, M. Winocur, G., & Behrmann, M. (1997). What is special about face recognition: Nineteen experiments on a person with visual object agnosia and dyslexia but normal face recognition. <i>Journal of Cognitive Neuroscience, 9</i> , 555–604.
Thursday March 29th	<b>TEST 3</b>
Tuesday April 3rd	<b>NO CLASS</b>

### Miscellaneous

#### Computer Stuff

All undergraduate students in the Faculty of Arts may obtain a free computer account on Waterloo Polaris. The account gives students free access to applications such as word processing, statistical and graphics packages, spreadsheets, and electronic mail, as well as the Internet. Students are charged for printing and can put money for printing on to their Arts Computing Resources Account at PAS 1080 using their WATCARD. Instructions for obtaining a Polaris account are available from the Arts Computing Office. Course materials will be available on ACE. If there is a discrepancy between the hard copy outline and the outline posted on ACE, the outline on ACE will be deemed the official version. All work to be handed in will be submitted through ACE.

#### Students with Disabilities

*“Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.”*

#### Academic Offences

*"Note on avoidance of academic offenses: All students registered in the courses of the Faculty of Arts are expected to know what constitutes an academic offense, to avoid committing academic offenses, and to take responsibility for their academic actions. When the commission of an offense is established, disciplinary penalties will be imposed in accord with Policy #71 (Student Academic Discipline). For information on categories of offenses and types of penalties, students are directed to consult the summary of Policy #71 (Student Academic Discipline) which is supplied in the Undergraduate Calendar (p.1:11). If you need help in learning how to avoid offenses such as plagiarism, cheating, and double submission, or if you need clarification of aspects of the discipline policy, ask your course instructor for guidance. Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean."*

*In addition, I would like to direct your attention to the following link to the Arts Faculty Web page, “**How to Avoid Plagiarism and Other Written Offences: A Guide for***

*Students and Instructors” (<http://watarts.uwaterloo.ca/~sager/plagiarism.html>)*