PSYC58: Cognitive Psychology Laboratory -- Fall 2010

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Class Times and Locations:
Lecture - Tuesday: 12-2   AA208
Lab - Tuesday: 3-4   BV471

Prerequisites: PSYB01H & [PSYB07H or SOCB06H or STAB22H] & [PSYB51H or PSYB57H]

Course Website: Blackboard (note that course evaluations will be conducted on the intranet)

Course Objectives:
1. To develop a deep understanding of traditional and modern methodological techniques used by cognitive psychologists to study the mind.
2. To familiarize students with the computer software (E-Prime) required for designing reaction time based cognitive psychology experiments.
3. To provide students with hands on experience collecting, manipulating, and analyzing data, and reporting methods and results in APA format, with the ultimate goal of preparing students to conduct their own professional, research-grade experiments.

Lecture & Reading Schedule

No textbook is required for this course. All required readings will be posted on BlackBoard. Please read the assigned readings BEFORE attending class.

Week 1: Introduction to the Course

Week 2: RT Procedures
- Assigned Reading: E-Prime User's Guide Appendix B

Week 3: The Stroop Effect
- Assigned Reading: Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology, 18,* 643-662.

Week 4: Mental Rotation
- Assigned Reading: Shepard, R. N., & Metzler, J. (1971). Mental rotation of three-dimensional objects. *Science, 171(3972),* 701-703.

Week 5: Change Blindness
- Assigned Reading: Rensink, R. A., O'Regan, J. K., & Clark, J. J. (1997). To see or not to see: The need for attention to perceive changes in scenes. *Psychological Science, 8(5),* 368-373.

Week 6: Signal Detection
- Assigned Reading: Swets, J. A., Dawes, R. M., & Monahan, J. (2000). Psychological science can improve diagnostic decisions. *Psychological Science in the Public Interest, 1(1),* 1-26.

Week 7: Lexical Decision
- Assigned Reading: Meyer, D. E., & Schvaneveldt, R. W. (1971). Facilitation in recognizing pairs of words: Evidence of a dependence between retrieval operations. *Journal of Experimental Psychology, 90(2),* 227-234.

Week 8: Automaticity & Stereotyping
- Assigned Reading: Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology, 70(6),* 1142-1163.

Week 9: Scanning Short Term Memory & Additive Factors Methodology
- Assigned Reading: Sternberg, S. (1966). High-speed scanning in human memory. *Science, 153(3736),* 652-654.

Week 10: Typicality in Categorization
- Assigned Reading: Posner, M. I., & Keele, S. W. (1968). On the genesis of abstract ideas. *Journal of Experimental Psychology, 77(3),* 353-363.

Week 11: Executive Control, Planning, and the Tower of London
- Assigned Reading: Shallice, T. (1982). Specific impairments of planning. *Philosophical Transactions of the Royal Society of London B, 298*, 199-209.

Week 12: Working Memory and fMRI
- Assigned Reading: Chein, J.M. & Fiez, J.A. (2001). Dissociation of verbal working memory system components using a delayed serial recall task. *Cerebral Cortex , 11 (11)*, 1003-1014.

Labs

Labs will be used to provide hands-on experience in running, designing, and implementing computer-based cognitive psychology experiments. Experiments will be provided that illustrate concepts related to the readings discussed in the lectures. Students will use E-Prime and Excel to implement experiments and prepare data for analysis.

Note: There will be no lab in Week 1.

Topics to be covered in the labs include:

- Introduction to Excel and Basic Data Management
- Introduction to E-Prime & E-Studio
- Introduction to E-Merge & E-DataAid
- Common Errors & Debugging Experiments in E-Prime
- Creating an Experiment in E-Prime
- Using Images in E-Prime
- Basic Programming in E-Prime
- Designing a Well Controlled Stimulus Set
- Cleaning & Manipulating Data in Preparation for Analysis
- Brain Tutor
- fMRI Data Interpretation

Grading

Weekly Quizzes (Lectures)	20%
Assignments (Labs)	40%
Final Exam	40%

Assignments

Students will be asked to complete assignments in most labs. The due dates will vary, depending on the complexity of the assignment (e.g., some will be due in the lab, whereas others won't be due until the following week).

Late Assignments

A penalty of 5% will be deducted for each calendar day that an assignment is late. I do not have jurisdiction to extend deadlines for assignments beyond the last day of classes, so be sure to submit all materials by that time. If necessary, students may petition the Registrar's office for permission to submit assignments after the last day of classes. Such petitions are not automatically granted, and indeed, will likely be denied without a valid reason. Such petitions must be submitted by the last day of the final examination period of the term.

Other Important Information

The University of Toronto is dedicated to fostering an academic community in which the learning and scholarship of every member may flourish, with vigilant protection for individual human rights, and a resolute commitment to the principles of equal opportunity, equity and justice.

AccessAbility

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

Academic Integrity

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

- o **Papers and Assignments:** Using someone else's ideas or words without appropriate acknowledgement. Submitting your own work in more than one course without the permission of the instructor. Making up sources or facts. Obtaining or providing unauthorized assistance on any assignment.
- o **Tests and Exams:** Using or possessing unauthorized aids. Looking at someone else's answers during an exam or test. Misrepresenting your identity.
- o **Other Academic Work:** Falsifying institutional documents or grades. Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see: http://www.utoronto.ca/academicintegrity/resourcesforstudents.html).

The above schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances.