PSYC58: Cognitive Psychology Laboratory

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Class Times and Locations:
Tuesday: 12-2 B471 (or SW 221)
Thursday: 12-1 B471 (or HW 308)

Prerequisites: PSYB01H & [PSYB07H or SOCB06H or STAB22H] & [PSYB51H or PSYB57H]
Corequisite: PSYC08H

Course Website: http://intranet.utsc.utoronto.ca
Course Blog: http://spaces.msn.com/members/psyc58h3
Course Calendar: http://calendar.msn.com/psyc58h3@hotmail.com

Required Materials:
St. James, J. D., Schneider, W., & Eschman, A. (2005). *PsychMate: Experiments for Teaching Psychology. Student Guide. Version 2.0.* Pittsburgh, PA: Psychology Software Tools Inc.
* Note: You must purchase the manual to get a PsychMate Student Activation Code. Without the code you will not be able to complete any of the PsychMate Experiment assignments in the course.

Course Objectives:
1. To familiarize students with the typical methods used by cognitive psychologists to test hypotheses regarding the workings of the mind.
2. To introduce students to computer software required for designing cognitive psychology experiments, collecting and analyzing data, and reporting the results concisely in APA format. By the end of the course students will be able to implement their own experiment using the software and to write a report of the results.

Course Overview
1. Lecture Schedule (Thursdays)
This Lecture component of the course will consist of 12 60-minute lectures that will cover the theory of experimental design and the use of computers for measurement in Cognitive Psychology. The lectures will be based on demonstrations using the PsychMate software and student lab manual.

Lecture 1: Attentional Interference and the Stroop Effect
Lecture 2: Lexical Decision
Lecture 3: Automaticity & Stereotyping
Lecture 4: Typicality in Categorization
Lecture 5: Automatic vs. Controlled Processing
Lecture 6: Scanning Short Term Memory
Lecture 7: Additive Factors Methodology
Lecture 8: Signal Detection
Lecture 9: Selective Attention and Response Competition
Lecture 10: Reaction Time Procedures
Lecture 11: Introduction to Brain Imaging and Brain Tutor
Lecture 12: Working Memory and fMRI

2. Tutorial Schedule (Tuesdays)
The tutorial component of this course consists of 12 2-hour labs to learn about the E-Prime experiment design software, to reinforce knowledge about how to write APA papers, to implement experiments and collect data, and, if time permits, to analyze data using SPSS.
Tutorial 1: Introduction; APA Format for Reference Section
Tutorial 2: Stroop; PowerPoint overview of E-Prime
Tutorial 3: E-Studio; E-Run; APA Format for Introduction Section
Tutorial 4: Paradigm Wizard & Trouble-shooting; APA Format for Methods Section
Tutorial 5: E-Merge; E-DataAid; Intro to SPSS
Tutorial 6: Do it Yourself: Stroop in E-Prime
Tutorial 7: Run Stroop & Analyze Data
Tutorial 8: Short APA Format Paper 1 Due; Prepare for Final Independent Projects
Tutorial 9: Discussion of Project Ideas
Tutorial 10: Review of Statistical Concepts; SPSS tutorial
Tutorial 11: Participation in Projects
Tutorial 12: Final Projects Due

Course Evaluation
There are five evaluative mechanisms in this course:
Assignments:
1. PsychMate Experiments and Worksheets. (24%). All experiments and worksheets are due at the beginning of the class for which they are noted as due, unless noted that they will be conducted *in* class. They will *not* be accepted late.
    a. PsychMate experiments: 1% each. 12% in total.
        i. Due Lecture 2: Attentional Interference and the Stroop Effect
        ii. Due Lecture 2: Lexical Decision
        iii. Due Lecture 3: Automaticity & Stereotyping
        iv. Due Lecture 4: Typicality in Categorization
        v. Due Lecture 5: Automatic vs. Controlled Processing
        vi. Due Lecture 6: Scanning Short Term Memory
        vii. Due Lecture 7: Additive Factors Methodology
        viii. Due Lecture 8: Signal Detection
        ix. Due Lecture 9: Selective Attention and Response Competition

x. Due Lecture 10: Reaction Time Procedures
xi. Due Lecture 11: Introduction to Brain Imaging and Brain Tutor
xii. Due Lecture 12: Working Memory and fMRI

b. Worksheets: 1% each. 12% in total.
i. Reference Page Worksheet. (Due Tutorial 2.)
ii. E-Prime Tour Worksheet. (Due Tutorial 2 in class.)
iii. Design Worksheet 1 (Due Tutorial 3).
iv. E-Studio/E-Run Worksheet (Due Tutorial 3 in class.)
v. Design Worksheet 2. (Due Tutorial 4.)
vi. Design Worksheet 3. (Due Tutorial 4.)
vii. Paradigm Wizard Worksheet (Due Tutorial 4 in class.)
viii. E-Merge/E-DataAid Worksheet (Due Tutorial 5 in class.)
ix. SPSS Worksheet (Due Tutorial 5 in class.)
x. Paradigm Wizard Assignment (Due Tutorial 6 in class)
xi. Stroop Worksheet (Due Tutorial 7 in class.)
xii. ANOVA Worksheet (Due Tutorial 10 in class.)

2. Short APA Methods and Results Paper 1. (10%)
   a. Students will write a short report in APA format which will consist of a methods, results, and reference section for a replication of a classic experiment that we will conduct in the tutorials. Format will be discussed in class, with examples. The goal of this assignment is to make it clear to students the steps involved in converting a description of an experiment, and raw data, into a polished, comprehensible report, written in APA format.
3. Final E-Prime Experiment and Short APA Format Paper 2. (26%)
   a. Students will implement their own original experiment in E-Prime and write a short report in APA format outlining the hypotheses of the experiment, the methods, and the results. The goal of this assignment is to gain experience in converting an idea into a comprehensible report of an implemented scientific research project.

Exams:

4. Midterm Exam. (20%)
   The Midterm exam will be scheduled during the Midterm exam period. The time and place will be determined by the Registrar's office, and will be posted on the course website as soon as the information is available. The exam will be designed to test your knowledge of theoretical and practical issues related to experiment design, E-Prime, and APA format. If you have been keeping up with the PsychMate experiment assignments and tutorial worksheets then there will be no surprises. It will be a mix of formats (e.g., multiple choice, short answer, true/false, etc.).
5. Final Exam. (20%)
   The final exam will take place during the December exam period. The exam will be designed to test your knowledge of theoretical and practical issues related to experiment design, E-Prime, and APA format. If you have been keeping up with the PsychMate experiment assignments and tutorial worksheets then there will be no surprises. It will be a mix of formats (e.g., multiple choice, short answer, true/false, etc.).

Policies on Late Assignments:
PsychMate experiments and worksheets will not be accepted late. To be fair to everyone involved, I will stand firm in this policy. Other assignments will be accepted late, but a penalty of 10% will be deducted for each calendar day that an assignment is late (so, for example, after 2 days, the maximum allowable grade will be 80%). I do not have jurisdiction to extend deadlines for assignments beyond the last day of classes, so be sure to submit all materials by Monday, Dec. 5th, 2005. If necessary, students may petition the Registrar's office for permission to submit assignments or write midterm exams 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.

Policies on Missed Exams:
The only reasons considered valid for missing an exam are (1) you are not in the physical condition to write an exam as verified by a medical professional, (2) you are not in the appropriate mental condition to write an exam as verified by a medical professional or registered clinical psychologist, or (3) it is a University of Toronto recognized religious holiday for a religion you are part of as verified by documentation from an appropriate religious leader.

If you miss an exam for one of the reasons above, there will be a make-up exam scheduled that will be similar in length and difficulty to the original midterm. The make-up will typically occur a few days after the original exam, and the date and location of the make-up will be announced prior to the actual exam. Thus, if you are going to miss the exam for one of the reasons above:

1. Send me an e-mail at gcree@utsc.utoronto.ca to let me know,
2. check the course web page for the date and time of the makeup, and
3. show up for the make-up exam *bringing your documentation along with you.*

If you miss the final exam I cannot provide a make-up. Instead you will have to petition to be allowed to write a deferred final exam during the next exam period (up to four months away).

Policies on academic integrity
Please review the Code of Student Conduct, a copy of which can be found on pages 378-397 of the official print version of the UTSC 2005-2006 Course Calendar.

Access*Ability*
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 Access*Ability* Services Office as soon as possible. The UTSC Access*Ability* 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. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

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