PSYB57-07W: Introduction to Memory and Cognition

General Course Information:
Course Information: UTSC Intranet Website
Course Email: psyb57@utsc.utoronto.ca ** please use this email address to ask all general content and procedural questions related to the course. Please only use the personal email addresses of the instructor and TA if you need to discuss personal matters (e.g., illness) or need to book an appointment with a specific person.

Instructor Information:
George Cree, Assistant Professor, Psychology
Email: gcree@utsc.utoronto.ca
Office: S-559
Office Hours: Monday 3-4, Tuesday 11-12

TA Information:
Ben Amsel, Graduate Student
Email: benamsel@gmail.com
Office: S-561
Office Hours: appointments can be booked through email

Class Times and Location:
Monday: 1-3, room AA-112
Tuesday: 1-2, room AA-112

Pre-requisites: [PSYA01 & PSYA02] or PSYA01Y. Note: if you do not have these prerequisites, and you require them for your degree, drop this course now! You will not be allowed to take them later if PSYB57 appears on your transcript, and this will have serious consequences for your ability to graduate.

Co-requisites: There are no co-requisites for this course.

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Course Objectives:
1. To provide a comprehensive introduction to the issues studied by cognitive psychologists. This includes intensive study of terminology, names of researchers, details of research paradigms, and the evidence that supports, and disconfirms, various theories of cognition.
2. To provide an introduction to laboratory methods specific to cognitive psychology research, including experiment design, practical implementation issues, data analysis, graphical presentation and interpretation of data, and how to use data to adjudicate among alternative theories.
3. To provide links between real world phenomena and the sometimes abstract methods of cognitive psychology.

Textbook:

Sternberg, R. J. (2006). Cognitive Psychology, 4th Edition. Thomson Wadsworth Publisher.

Articles:
12 articles have been selected to complement the textbook readings. They are a selection of current and classic readings on each topic. They are all available through the course intranet website.

CogLab:
The topics discussed in the textbook, articles, and lectures, are supplemented through the use of a 'virtual laboratory' component of the course. These experiments are useful in many ways, including providing a concrete implementation of each experiment paradigm for students to experience, and providing real data for us to discuss in class. Although there are no marks provided for completing these experiments, it is highly recommended that students try at least a few trials from each experiment to get a feel for how the experiments work. Please view the notes for the first week's lectures (PSYB57-07W-W1-Notes.ppt) to learn how to activate your CogLab account.

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Schedule of Topics and Readings:

Week 1: *Introduction*
Textbook: Chapter 1: Introduction to Cognitive Psychology
Articles: Miller (1956), E-Prime Appendix B
CogLabs: None

Week 2: *Cognition and the Brain*
Textbook: Chapter 2: Cognitive Neuroscience
Article: Buckner & Logan (2001)
CogLabs: Brain Asymmetry

Week 3: *Attention*
Textbook: Chapter 3: Attention and Consciousness
Article: Treisman (1986)
CogLabs: Attentional Blink, Stroop Effect, Simon Effect, Spatial Cueing

Week 4: *Perception and Object Recognition*
Textbook: Chapter 4: Perception
Article: Tarr & Cheng (2003)
CogLabs: Mapping the Blind Spot, Receptive Fields, Apparent Motion, Metacontrast Masking, Muller-Lyer Illusion, Signal Detection, Visual Search, Lexical Decision

Week 5: *Memory Models and Methods*
Textbook: Chapter 5: Memory Models and Research Methods
Article: Baddeley (2001)

CogLabs: Memory Span, Partial Report, Absolute Identification, Operation Span, Implicit Learning, Modality Effect, Position Error, Irrelevant Speech, Phonological Similarity, Levels of Processing

Week 6: Memory Processes
Textbook: Chapter 6: Memory Processes
Article: Schacter (2001)
CogLabs: Brown-Peterson, False Memory, Serial Position, Sternberg Search, Von Restorff Effect, Encoding Specificity, Forgot it All Along, Remember/Know

Week 7: Mental Imagery
Textbook: Chapter 7: Representation and Manipulation of Knowledge in Memory: Images and Propositions
Article: Farah (1988)
CogLabs: Mental Rotation, Link Word, Mental Scanning

Week 8: Concepts and Categorization
Textbook: Chapter 8: Representation and Organization of Knowledge in Memory: Concepts, Categories, Networks, and Schemas
Article: Medin (1989)
CogLabs: Prototypes, Absolute Identification, Implicit Learning

Week 9: Language
Textbook: Chapters 9 and 10: Language: Nature and Acquisition, and Language in Context
Article: None
CogLabs: Categorical Perception Identification, Categorical Perception Discrimination, Suffix Effect, Lexical Decision, Word Superiority

Week 10: Problem Solving
Textbook: Chapter 11: Problem Solving and Creativity
Article: Klahr & Simon (1999)
CogLabs: Monty Hall

Week 11: Decision Making and Reasoning
Textbook: Chapter 12: Decision Making and Reasoning
Article: Kahneman (2003)
CogLabs: Risky Decision, Typical Reasoning, Wason Selection Task

Week 12: Intelligence
Textbook: Chapter 13: Human and Artificial Intelligence
Article: Neisser et al. (1996)
CogLabs: None

** It is highly recommended that you read each textbook chapter and article, and try at least a few trials of each of the associated CogLab experiments, before the classes in which the material will be discussed.

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Course Evaluation: There are two evaluative mechanisms in this course:

Midterm Exam: 50%
The first exam will cover the material discussed in the first 6 weeks, including the textbook chapters, the accompanying articles, the associated lectures, and all CogLab experiments listed in the chapters. There will be 80 multiple-choice questions and 20 marks worth of short answer written questions. The test will be scheduled for 2 hours, by the Registrar's office, during the midterm exam period. This exam will be worth 50% of the final grade.

Final Exam: 50%
The second exam will be the same as the first, but will cover the last six weeks of the course. The exam will be scheduled by the Registrar's office during the final exam period. This exam will be worth 50% of the final grade. Material from the first six weeks will not be tested directly, but may be tested indirectly to the extent that material builds as the chapters progress.

Policies on Missed Exams
The only reasons considered valid for missing an exam are (1) you are not in an appropriate physical condition to write an exam, as verified by a medical professional, or (2) you are not in the appropriate mental condition to write an exam, as verified by a medical or counseling professional, 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, *but composed entirely of written answer questions.* The time and location of the make-up exam will be posted on the intranet site, and announced in class, as soon as the information is available. If you are going to miss the midterm exam for one of the reasons listed above, email me (gcree@utsc.utoronto.ca) to let me know why you were not at the original exam, and show up for the make-up exam bringing your documentation along with you.

If you arrive late for an exam, and students have already left the exam room, you will be allowed to write the exam, but you will then be required to visit the Life Sciences Chair's Office to request permission for the exam to count as part of your grade. Get documentation to verify the reason you are late, as it will help in your appeal process.

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).

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Policies on academic integrity
Please review the UTSC Code on Academic Behaviour:

http://www.utsc.utoronto.ca/courses/calendar/University_of_Toronto_Policies.html#Code_of_Behaviour_on_Academic_Matters

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. 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. 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.