

PSYB57-10W: Introduction to Memory and Cognition

General Course Information:

Course website: University of Toronto Blackboard System (& UTSC Intranet for evaluations)

Instructor:

George Cree, Associate Professor, Psychology

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Office: S-559

Office Hours: Monday 3-4 in S559, Friday 11-12 in S559

TA:

Ben Amsel, Graduate Student

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Office Hours: by appointment.

Class Times and Location:

Monday: 12-3, 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.

Course Content:

This course is concerned with the study of the human mind, with a focus on the methods used by cognitive psychologists to understand how the brain gives rise to the mind. This is an interdisciplinary area that represents an attempt by cognitive psychologists, neuroscientists, computer scientists, linguists, and philosophers to discover how mental processes are implemented in the brain. The approach focuses on human cognitive processes, and relies heavily on the methods and findings of neuroscience, in that the brain is used as a constraint on how models of the mind must be designed. Our focus will be on the contributions of cognitive psychology, but we will sample methods and theories from the other related fields as appropriate. This kind of research receives extensive coverage in the media (e.g., brain scanning of cognitive function, the implications of talking/texting while driving, financial decision making, etc.), and this course should provide you with a deeper understanding of what you might read and hear about outside of the classroom.

The topics covered are the major ones in higher-level cognition, and include: concepts and mental representations, object recognition, long-term memory, working memory, attention, control processes, emotion, decision making, reasoning, problem solving, and language processing. To understand the cognitive approach to these topics, students will be introduced to the behavioral reaction time methods of cognitive psychology, to some elementary neuroanatomy, to the logic of studies with neurological patients, to functional neuroimaging techniques such as functional Magnetic Resonance Imaging (fMRI), and to the basics of computational modeling, with a focus on connectionist modeling.

Required Readings:

Smith, E. E., & Kosslyn, S. M. (2007). Cognitive Psychology: Mind and brain. Pearson Education, Canada, Ltd.

Note: The textbook comes packaged with free supplementary materials. These materials (e.g., My Research Lab) will not be used in this course.

Schedule of Topics, Readings & Assignments:

- Week 01: Smith & Kosslyn Chapter 01: How the Brain Gives Rise to the Mind
- Week 02: Smith & Kosslyn Chapter 02: Perception
- Week 03: Smith & Kosslyn Chapter 03: Attention
- Week 04: Smith & Kosslyn Chapter 04: Representation and Knowledge in Long-Term Memory
- Week 05: Smith & Kosslyn Chapter 05: Encoding and Retrieval from Long-Term Memory
- Week 06: Smith & Kosslyn Chapter 06: Working Memory
- Week 07: Smith & Kosslyn Chapter 07: Executive Processes
- Week 08: Smith & Kosslyn Chapter 08: Emotion and Cognition
- Week 09: Smith & Kosslyn Chapter 09: Decision Making
- Week 10: Smith & Kosslyn Chapter 10: Problem Solving and Reasoning
- Week 11: Smith & Kosslyn Chapter 11: Motor Cognition and Mental Simulation
- Week 12: Smith & Kosslyn Chapter 12: Language

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

Midterm Exam: 40%

The first exam will cover the material discussed in the first 6 lectures, including the Smith and Kosslyn textbook chapters 1-6, and the associated lecture notes. There will be 80 multiple-choice questions and 20 marks worth of short answer questions. The test will be scheduled for 2 hours, by the Registrar's office, during the midterm exam period. This exam will be worth 40% of the final grade.

Final Exam: 60%

The second exam will be the same format as the first, but with 120 multiple choice questions, and 30 marks worth of short answer questions. The exam is cumulative, meaning that it will include some material from the first 6 chapters of the textbook (and associated lectures), but, it will primarily cover the last six weeks of the course, focusing on chapters 7-12, and the associated lectures. The exam will be scheduled by the Registrar's office during the final exam period. This exam will be worth 60% of the final grade.

Policies on Missed Midterm Exams

The only reasons considered valid for missing a midterm 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 an 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 the midterm exam for one of the reasons listed above, there will be a make-up exam scheduled that will be as similar as possible in length and difficulty to the original midterm. The time and location of the make-up exam will be posted on blackboard, and announced in class, as soon as the information is available.

Requesting to Defer a Final Exam

From the Registrar's Website:

Students are expected to write their final examinations at the end of their courses and are strongly discouraged from deferring a final examination. The decision to defer an examination can have very serious consequences on your future studies. Experience over many years has shown that you rarely gain any academic advantage by deferring an examination. The decision to defer your final examination should only be made under truly exceptional circumstances and only when there is no possibility of attending the examination.

Very occasionally, students encounter circumstances where it is impossible for them to write a final examination; for example, because of a serious illness or the death of a close family member. If you are ill or other circumstances absolutely prevent you from attending a final examination, you may request permission to defer writing it until a later date. In most cases deferred exams will be written in the next final examination period or in the study break that immediately precedes it. However, students should be aware that deferred exams can be scheduled at any time during the following session.

The decision to defer your final examination should not be a hasty one. There are a number of very important considerations you need to be aware of before making your decision. You should discuss the consequences of deferring an examination with an Academic Advisor.

Please visit the following website for more information:

http://www.utsc.utoronto.ca/~registrar/current_students/deferred_exams

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:

- **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.
- **Tests and Exams:** Using or possessing unauthorized aids. Looking at someone else's answers during an exam or test. Misrepresenting your identity.
- **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>).

H1N1 Planning

Students are advised to consult the university's preparedness site (<http://www.preparedness.utoronto.ca>) for information and regular updates regarding procedures relating to H1N1 planning and individual student responsibilities.

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