

## PSYB57: Introduction to Memory and Cognition

Winter 2005

**Class Times:** Monday: 3-5 Pavilion  
Friday: 12-1 Pavilion

**Prerequisites:** [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.

**Corequisite:** PSYB07. Note: if you do not have PSYB07, or are not taking it now, and it is part of your program requirements, you will need to get a note from me saying that you are allowed to take this course now, and that you will take PSYB07 at a later date. Unfortunately, due to scheduling problems, it is not always possible for students to take these at the same time. Deferring PSYB07 may put you at a slight disadvantage in terms of your understanding of experimental design, but it is nothing that can't be overcome with a little extra reading. If you are having trouble with experimental design concepts, please feel free to talk to me during office hours, as I can advise you on relevant reading materials.

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*Office hours:* By appointment.

**Course Website:** UTSC Intranet

**Textbook:** Goldstein, B. (2005). Cognitive Psychology: Connecting Mind, Research and Everyday Experience (with CogLab Online and Concept Charts Booklet), 1st Edition. ISBN: 0534577261.



**Course Objectives:**

1. To provide a solid understanding of the terminology and research paradigms used by cognitive psychologists.
2. To provide an introduction to lab methods in cognitive psychology, from experiment design, to data analysis, to interpretation of results.

I can appreciate that students will vary in their competency levels on these abilities. You can expect to acquire these abilities only if you honour all course policies, attend class regularly, complete all assigned work in good faith and on time, and meet all other course expectations of you as a student.

### Course Overview

Let's start with an example. Look at some object beside you – something that is just out of reach. How can you be sure that it is really there. No really, how? What a silly question, you might think, but consider the problem. We really trust our sense of vision. It tells us what's out there. If I see an apple, I can reach for it, and 100% of the time, it exists. So, our visual system must be giving us a literal depiction of what's actually out there, right?

But then check [this](#) out. Notice anything strange? Now what do you think of your visual system? What's going on? We'll talk about this more in coming weeks when we talk about object recognition and attention.

Some other questions addressed by the field of cognitive psychology include:

1. *Pattern Recognition*: How many times have you carefully proofread written work, only to be embarrassed later by an obvious error that you overlooked?
2. *Attention*: Have you noticed the difficulty of simultaneously taking notes in class and understanding a lecture? How do we manage to carry on a conversation with one person at a party, and simultaneously eavesdrop on another, more interesting conversation taking place nearby?
3. *Memory*: When you dial directory assistance to get a phone number, and you don't have a pencil and paper to record the number, why do you have to keep repeating the number until you have dialled it? And why do you have to call directory assistance again if someone talks to you before you get a chance to dial the number? And why do we remember people whom we met years ago, but sometimes seem to forget what we learned in a course shortly after we take the final exam (or worse, sometimes right before)?

Cognitive psychologists are interested in many topics, including object recognition, attention, memory, language, and problem solving. This course is designed to explore how the brain makes all of this possible. Because we don't yet (and probably never will) have a way of discussing how "cognitive" phenomena like "comprehending a story" occur at the neural level, we will describe these phenomena in an abstract language, the language of *cognitive psychology*, the language of the *mind*. Because we can not directly see the mind in action, cognitive psychologists use the scientific method to test predictions about what the mind must be like, and how the mind must operate. We will also often discuss the increasingly important role that computer models and neural imaging are playing in shaping our understanding of the mind (and if you want more of that, then take [PSYC55](#) next year). It is probably impossible to construct an overarching theory of cognition at this time (though some have tried), thus the goal of this course is to provide a broad understanding of the scientific study of mental processes. Throughout this course, the role of controlled, laboratory-based psychological experimentation will be emphasized as one way to answer questions about the operation of the mind.

## Course Evaluation

There are four evaluative mechanisms in this course:

1. **Test 1: 20%**

A test covering the first 4 chapters. There will be 40 multiple-choice questions. The test is designed for 45 minutes, but you will have 1 hour to complete it. All questions will have an equal weight and there will be no penalty for guessing. This test will be worth **20%** of the final grade. **This test will take place in class.**

2. **Test 2: 20%**

The second test will cover the next 4 chapters. This exam will be *non-cumulative*, and will have a format identical to the first test. It will be worth **20%** of the final grade. **This test will take place in class.**

3. **Final Exam: 40%**

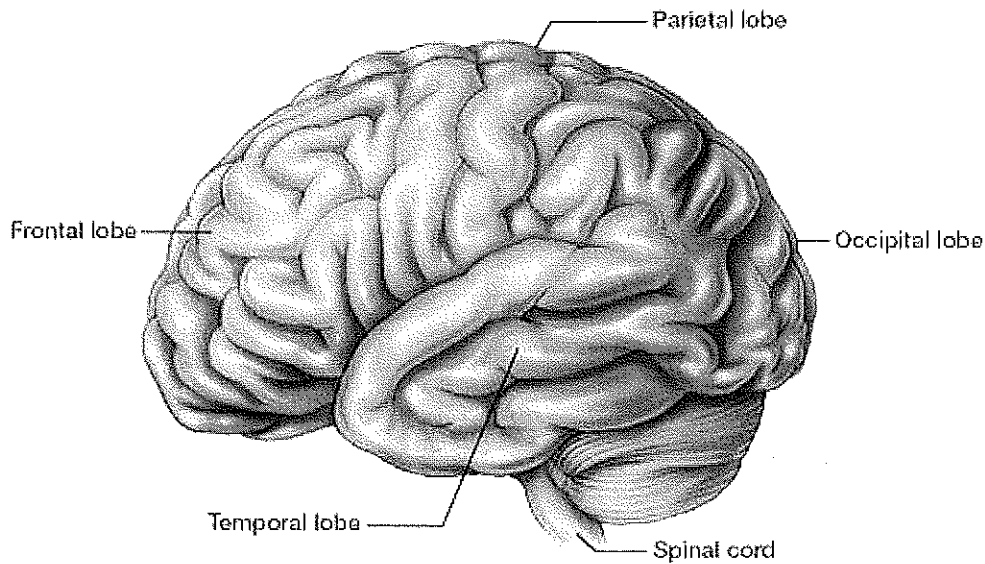
The final exam will take place during the April exam period. It will have the same kinds of multiple choice questions as the other tests, but there will be more of them, and there will also be some more involved, application-type multiple choice questions. It *will* be cumulative. It will be worth **40%**.

4. **Lab Notebook: 20%**

All good scientists keep a detailed lab notebook (e.g., see an example of one of Einstein's [here](#)). Since you are learning how to be a world class scientist, you will do the same! For each experiment that we discuss in one of our Friday sessions, you will be required to complete certain assignments, recording your thoughts, ideas, and answers to questions, in the notebook. We will discuss the requirements for this as they arise. For now, please purchase a small notebook that you can bring to class.

**Schedule of Topics and Deadlines:** The plan is to work gradually through the processing system, beginning with how we extract information from the environment, continuing through how we learn and remember information, then examining how knowledge is organized, and concluding with how we make intelligent use of information in such complex tasks as decision making and problem solving. Along the way, research on cognitive disorders and practical issues will be raised.

<i>Week</i>	<i>Monday (3-5)</i>	<i>Friday (12-1)</i>
<i>Jan 3-7</i>		Introduction
<i>Jan 10-14</i>	Chapter 1: Intro to Cog Psych	CogLab: Stroop
<i>Jan 17-21</i>	Chapter 2: Cognition and the Brain	CogLab: TBA
<i>Jan 24-28</i>	Chapter 3: Perception	CogLab: TBA
<i>Jan 31-Feb 4</i>	Chapter 4: Attention	<b>Test 1</b>
<i>Feb 7-11</i>	Chapter 5: Working Memory	CogLab: TBA
<i>Feb 14-18</i>	Reading Week	Reading Week
<i>Feb 21-25</i>	Chapter 6: Long Term Memory: Basics	CogLab: TBA
<i>Feb 28-Mar 4</i>	Chapter 7: Every Day Memory & Errors	CogLab: TBA
<i>Mar 7-11</i>	Chapter 8: Knowledge	<b>Test 2</b>
<i>Mar 14-18</i>	Chapter 9: Visual Memory	CogLab: TBA
<i>Mar 21-25</i>	Chapter 10: Language	CogLab: TBA
<i>Mar 28-Apr 1</i>	Chapter 11: Problem Solving	CogLab: TBA
<i>Apr 4-5</i>	Chapter 12: Reasoning and Decision Making	CogLab: TBA
<i>April 11-30</i>	--- exam date to be announced ---	<b>Final Exam</b>



**Policies on missed and late exams and assignments**

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 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 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. Do not try to call me or e-mail me but instead ...
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 don't plagiarize. Please don't cheat. Both are bad. They can get you kicked out of school!

**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](mailto: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.*