

Course Description (v2a)
2260.03 A (F-2019-20) Cognitive Processes

Section: 2260.03A F Time: 7pm Rm: DB 0001	Course Director: Prof. Vinod Goel Office: 235 BSB/Lab: BSB 037 Email: vgoel@yorku.ca Office Hrs: 6-7pm BSB037 TA: Gregory Giovannini TA contact info: gregorex@yorku.ca Office Hrs: TBA
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Course Prerequisites: Psych 1010 with a minimum C grade.

Drop Date: Nov. 8, 2019.

General Description: This will be a basic course in the cognitive structures & processes involved in perception, memory, language, thinking, reasoning, & problem solving. We will motivate & explicate the cognitive paradigm, discuss data from the various domains, and examine the models that have been advanced to account for the data. The section will have a cognitive science bias. The objective of the course is to give you an overview of the field of cognitive psychology.

Course website: <https://moodle.yorku.ca/moodle/course/view.php?id=151422>

Learning Objectives: Your immediate learning objectives should be to use the course content and exercises to develop reading, writing, and critical evaluation skills.

Class Format: Lectures via video tape (as per class request)

Office hours: This will be an opportunity for you to ask administrative and content questions. However, administrative questions are already dealt with in this document, so it is largely content questions that you should be raising during ~~virtual~~ office hours

Email correspondence: Please note that I will generally not answer questions via email. I have peripheral nerve damage in my hands which makes it extremely difficult and painful to type. I can only respond to email when I'm sitting with my voice-recognition system. If you cannot meet with me during office hour, send me an email to make an appointment at an alternative time. *In all emails that you send me, you must put the course ID number in the subject line, otherwise it is apt to get lost among my hundreds of emails each day.*

Requirements & Assessment:

- 1) One term paper (30% of grade)
 - Details attached below.

- 2) Participation in question answering exercises (10% of grade)
 - Details attached below.
- 3) Two tests (60% of grade)
 - Details attached below.

Readings (available on Moodle)

- 1.1) Fodor, J. A. (1981). The Mind-Body Problem. *Scientific American*, 244(1), 114-123.
- 1.2) Searle, J. R. (1984). *Minds, Brains and Science (Chapter 1, Mind-Body Problem)*. Cambridge, Mass.: Harvard University Press.
- 1.3) Friedenberg, J. & Sliverman, G. 2006. Introduction. *Cognitive Science*. London: Sage.
- 2) Goel, V. (1995). *Sketches of Thought (Chapter 2: From Mental Representation to Computation)*. MIT Press.
- 3.1) Friedenberg, J. & Sliverman, G. 2006. Perception Chapter. *Cognitive Science*. London: Sage.
- 3.2) Zimbardo, P. & Gerrig R J. 1996. Perception Chapter. *Psychology and Life*, 14th ed. (New York: HarperCollins, 1996), 258–302.
- 4.1) Wittgenstein, L. 1999. Philosophical Investigations, Sections 65-78. *Concepts: Core Readings*, ed. E. Margolis and S. Laurence (Cambridge, MA: MIT Press, 1999), 171–174.
- 4.2) Rosch, E. 1999. Principles of Categorization. In Rosch, Eleanor and Lloyd, Barbara B. (eds), *Cognition and categorization 27-48*. Hillsdale, NJ: Lawrence Erlbaum.
- 5.1) Memory 1: Kathleen Galotti et al. 2009. *Cognitive Psychology; In and Out Of the Laboratory*. 1st Canadian edition. Nelson.
- 5.2) Memory 2: Kathleen Galotti et al. 2009. *Cognitive Psychology; In and Out Of the Laboratory*. 1st Canadian edition. Nelson.
- 6.1) Anderson, J. Chapter 12: Language. *Cognitive Psychology (8th Edition)*. Worth Publishers.
- 6.2) Chomsky, N. (1981). On Cognitive Capacity. In N. Block (Ed.), *Readings in Philosophy of Psychology, Vol. 2* (pp. 305-323). London: Methuen.
- 7.1) Goel, V. (in press). *Reason and Less*. (Chap. 1: The Rational Animal). MIT Press.
- 7.2) Goel, V. & Waechter, R. (2017). Inductive and Deductive Reasoning: Integrating Insightings from Philosophy, Psychology, & Neuroscience. In V. Thompson & L. Ball (Eds.), *International Handbook on Thinking and Reasoning*. NY: Taylor & Francis.
- 8) Tversky, A. & Kahneman, D. 1974. Judgment under Uncertainty: Heuristics and Biases. *Science*, Vol. 185, pp.1124-1131.
- 8.2) Chase, Hertwig, & Gigerenzer (1998). Visions of Rationality. *Trends in Cognitive Sciences*. Vol. 2: 6.
- 9) Ollinger, M. & Goel, V. (2010). Problem-Solving. In B. Glatzeder, V. Goel, & a von Müller (Eds), *Towards a Theory of Thinking*. Springer.

10.1) Gazzaniga, MS, Ivry, RB, Mangun, GR. (2014). Chapter 3: CNS Methods. *Biology of the Mind* (4th ed.). NY: Norton.

10.2) Goel, V. (2007). Anatomy of Reason. *Trends in Cognitive Sciences*. Vol. 11 (10).

Readings: The average textbook now costs over \$200! (Textbooks are not used anywhere else in the world, only Canada and America.) I have not assigned a textbook for this course. I've selected a series of relevant readings that are freely available on Moodle. One challenge with individual readings is to maintain a sense of continuity across the material. This continuity is provided in the lectures. Do the readings in conjunction with the lectures.

How to do the readings: (1) listen to the lecture video; (2) read the participation questions associated with the lecture/topic; (3) begin your readings with the aim of answering the participation questions; (4) Confirm/clarify your understanding by asking questions during office hour. Once you can answer the participation questions, you have gotten everything out of the reading that you need to get.

Some of you may find it helpful to have a textbook. If so, buy a used copy of almost any cognition textbook. I have previously used the following textbook for this course:

Kathleen Galotti et al. 2009. *Cognitive Psychology; In and Out Of the Laboratory*. 1st Canadian edition. Nelson.

Participation/Question Answering Grade (10%):

Each week you will receive questions to guide you through the weekly readings. You will submit written answers to these questions by the specified dates and times. Once you have submitted your answers through Moodle, you will be able to see the answers submitted by other students. We will indicate some of the good answers to the questions prior to the tests. *These questions are very similar to the short answer questions that you will see on the tests.* Answering these questions will get you participation grades and help you study for the tests. Please note the submission dates on the schedule. The submission time is midnight. The system will not accept late submissions. As this is meant to be a weekly exercise to encourage you to keep up with the readings, no extensions will be granted.

The 10 participation points are evenly divided over the topics/question sets. As there are 10 topics, the participation exercise for each topic is worth one point. At the end of the term we will tally how many of the participation exercises you completed. For each submission with a reasonable attempt at an answer (that shows you did the readings) you will get the full grade. If the exercise is not submitted, or the answer does not indicate knowledge of the readings, you will get a zero grade. Notes: (i) you will not receive feedback for the participation exercise; (ii) if you submit something that is not actually an answer to the questions (e.g., random text), to get access to the answers of other students, you will did zero participation points for the term.

Tests (60%):

There will be two tests on the dates indicated on the schedule. The tests will be written on campus on the scheduled time and dates, or as arranged with the Alternative Testing Centre. ~~The~~

~~room locations will be announced when they are known.~~ Each test will have a duration of two hours and will consist of multiple choice and written essay questions. No, you will not know how many of each type of question until you see the test. The grade value of each test is indicated on the weekly schedule. The test material will be based on the lectures and the indicated readings. Each test will focus on the five topics covered during that period, but may contain a few questions from earlier topics. The best way to study for the test is to attend lectures, do the readings, and ANSWER THE QUESTIONS ASSOCIATED WITH EACH READING.

Missed Tests: Students are expected to write each test on the dates and times specified. Test dates and times are not negotiable. **If you miss a mandatory piece of course work for no acceptable documented reasons, you will receive a grade of zero.** If you have a legitimate reason (e.g., death in the family, severe illness, etc.) for being excused from a test/exam, and have documentation to verify your absence, you may write a make-up test, in lieu of the missed test/exam, on the date specified on the schedule. You **MUST** keep this date and time open as it will be the only chance to write a makeup if you miss a scheduled test. *Please note that one consequence of missing the first scheduled test will be that you will not receive the usual grade feedback by the drop date. Furthermore, given the limited number of multiple-choice questions available, there may be fewer or no multiple-choice questions on the makeup tests. The makeup tests will consist largely or exclusively of written essay and short answer questions.* There is no makeup test for the makeup test.

In addition, for any missed tests or late assignments, students **MUST** complete the following online form which will be received and reviewed in the Psychology undergraduate office.

HH PSYC: Missed Tests/Exams Form. Failure to complete the form within 48 hours of the original deadline will result in a grade of zero for the test/assignment.

Term Paper (30%):

Write an academic term paper (15-20 pages) addressing one of the questions from the provided list. The paper will be graded not only for content (40%), but also your ability to organize and express your thoughts in a structured, systematic, coherent fashion, using grammatical English sentences organized into paragraphs and sections (60%). Term papers may be submitted to Turnitin or Google or other engines to check for plagiarism.

Late Term Papers and Assignments:

The term paper is due on the day indicated in the course schedule. Late assignments will be penalized one grade point per calendar day and **will not receive feedback**. *No assignments will be accepted after the last day of term.* As you will always have at least 2-3 weeks to complete the assignment, a doctor's note indicating illness will usually not suffice to waive the penalty. To be considered, a doctor's note must indicate that you were incapable of working for at least two weeks during the course of the semester.

Grades Appeal/Correction: Any questions or concerns regarding grades on tests and assignments must be raised with the instructor within 10 days of the posting of the grade.

Grades and Entitlements:

I routinely apply a statistical adjustment to grades to make sure they fall into the expected range. In the last 20+ years, this has always resulted in higher grades. However, there is always the possibility that on any specific course component, your grade may be adjusted downwards. If you do not wish your grade to be adjusted, and want the actual raw grade that you have received on every piece of work, please send me an email by the end of the first week of classes, indicating this. If I do not receive this email, your grades will be part of any adjustment. I advise participating in the adjustment.

You are entitled only to the grade that you **earn** in this course. Nothing else. I will **not** increase your grade just because "you need at least a x grade to graduate; or you need a y grade to get into some other program; or you need a z grade to maintain your scholarship;" etc.. It is not fair to other students. If you need a certain grade in this course, please do the required work.

Plagiarism is the passing off of someone else's words and ideas as your own. This is a very serious academic offense. Do your own assignments and acknowledge all your sources. Google and Turnitin software may be used to check for plagiarism on written work. The penalty for plagiarism will be in accordance with the Senate Policy on Academic Honesty which can be found at the following URLs, along with resources to help you avoid plagiarism:

- [Information about the Senate Policy on Academic Honesty](#)
- [Online Tutorial on Academic Integrity](#)
- [Information for Students on Text-Matching Software: Turnitin.com](#)
- [Beware! Says who? A pamphlet on how to avoid plagiarism](#)
- [Resources for students to help improve their writing and research skill](#)

Student Feedback: I welcome constructive comments on course organization, lectures (content, style, presentation), assignments, etc.

Office Hours: Make use of the office hours. They are for your benefit.

**2260.03A Cognitive Processes
Fall 2019-20, Proposed Schedule**

Topic	Date	Lecture Topics	Readings	Assignments
1	Sept. 10	Historical introduction to Cognitive Psychology	Articles 1.1-1.3	
2	Sept 17	Cognition & Computation	Articles 2	
3	Sept 24	Perception/ Visual	Articles 3.1, 3.2	
4	Oct 1	Categorization	Articles 4.1, 4.2	
5	Oct. 8	Memory	Articles 5.1, 5.2	
	Oct 15	Reading week		Term paper
6	Oct 22	Language	Articles 6.1, 6.2	
7	Oct 29	Test 1 (40%)		
8	Nov 5	Reasoning	Articles 7.1, 7.2	
9	Nov 12	Decision Making	Articles 8.1, 8.2	
10	Nov 19	Problem solving	Articles 9	
11	Nov 26	Neuropsychology of Reasoning	Articles 10.1, 10.2	
12	Dec 3	Test 2 (20%)		

Other Information (from Department):

Learning Outcomes

Upon completion of this course, students should be able to:

1. Demonstrate in-depth knowledge in cognition.
2. Articulate trends in cognitive psychology.
3. Express knowledge of cognitive psychology in written form.
4. Describe and explain limits to generalizability of research findings in cognitive psychology.
5. Demonstrate ability to relate information about cognitive psychology to own and others' life experiences.

Grading as per Senate Policy

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests* will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 89, B+ = 75 to 79, etc.)

(For a full description of York grading system see the York University Undergraduate Calendar - [Grading Scheme for 2018-19](#))