

Course Description
4270.03A (F/2014) Seminar in Memory and Cognition

Section: 4270.03A Time: Tuesday, 2:30 PM-5:30 PM Rm: MC101	Course Director: Prof. Vinod Goel Office: 332 BSB/ Lab: BSB 037 Tel: Lab Ext. 30400 Email: vgoel@yorku.ca Office Hrs: Tuesday after class 5:30 -6:30 PM.
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Prerequisites: AK/AS/HH/SC/PSYC 1010 6.0 or AK/PSYC 2410 6.0 with a minimum grade of C; AK/AS/HH/SC/ PSYC 2030 3.0 or AK/PSYC 2530 3.0 or substitute; AK/AS/HH/SC/PSYC 2020 6.0 or substitutes, one of AK/PSYC 3130 3.0 or AK/AS/SC/PSYC 3265 3.0, AK/PSYC 3135 3.0 or AK/AS/HH/SC/PSYC 3260 3.0 (after Winter 2002). Students must be in an Honours Program in Psychology and have completed 14 university courses or 84 credits (Excluding Education Courses).

Course Credit Exclusion: AK/PSYC 4130 3.0

Drop Date: November 7, 2014.

Important Note regarding E-Mail/Internet Use: Severe pains in my arms prevent me from excessive typing. Therefore, please do not send me e-mail, except to make an appointment to meet in person. I will not be able to read and respond to it in a timely manner. I'm happy to answer your questions in class, during the tutorial, during my office hours, or make an appointment to meet with you. I will also stay at the end of each lecture to answer individual questions.

General Description: This is an intermediate to advanced seminar on cognition, where cognition is recognized to be the goal directed (computational) manipulation of mental representations. The course will focus on the subdomains of reasoning, decision-making, and problem solving and the types of theories/models of thinking processes that the tasks, data, and intuitions from these subdomains have given rise to. We will examine these topics from cognitive, neuropsychological, and computational perspectives. Students will be exposed to current research, issues, and controversies in these areas.

Class Format: This is a seminar... not a lecture course. There will be no/few formal lectures. We will have several student led presentations each week.

- Requirements:**
- 1) One paper (40% of grade)
 - Draft 1 (10%)
 - Draft 2 (10%)
 - Final (20%)
 - Details attached below.

- 2) 2 or 3 Class Presentations (20% of grade)
 - Details attached below.
- 3) 10 1pg article review submissions (30%)
 - Details attached below.
- 4) Participation (10)
 - Details attached below.

Articles : TBA

Students will be required to read three articles per week, prior to coming to class.

Term Paper (40%)

A term paper addressing (a preapproved) topic relevant to the course is required. You will submit 2 draft copies on the indicated dates and a final copy on the last day of class. After the submission of the 1st draft you will be required to read the draft of another student and provide feedback. I will read the 2nd draft and provide feedback.

Late Term Papers

The term paper drafts and final copy are due at the beginning of class on the days indicated in the course schedule. Late assignments will be penalized 1 point if not submitted at the ***beginning*** of class, and one grade point per calendar day thereafter, and ***will not receive feedback***. As you will always have at least 2-3 weeks to complete an 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 half the number of days between the handing out the assignment and the due date. No assignments will be accepted after the last day of class.

Short Assignments (30%):

Every week you will read the articles assigned for that week before coming to class. You will write a 1 pg summary of one of the articles and submit it at the beginning of class.

Late Short Assignments: The short 1pg article reviews are due at the beginning of each class. Late assignments will be penalized TWO points if not submitted at the ***beginning*** of each class and one grade point per calendar day thereafter. As you will always have at least 2-3 weeks to complete an 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 half the number of days between the handing out the assignment and the due date. No assignments will be accepted after the last day of class.

Class Presentations (20%):

Every class will consist of 3 student presentations (approx. 30 min each) of the assigned articles & chapters. Make sure that your schedule and health permit you to attend class and participate in these exercises regularly.

Participation Grade (10%):

Constructive vocal classroom participation will be worth 10 points.... Particularly facilitating discussion during student presentations. You will also provide a grade to each Presentation (including your own). There will be no substitute assignments to make up missed/poor

participation grades. Make sure that your schedule and health permit you to attend class and participate in these exercises regularly.

Grades and Entitlements:

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. 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 you own. This is a very serious academic offense. Do your own assignments and acknowledge all your sources. The penalty for plagiarism will be in accordance with the Senate Policy on Academic Honesty which can be found at the following URL:

<http://www.yorku.ca/secretariat/policies/document.php?document=69>

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.

4270.03A Seminar in Memory and Cognition
F/2014, Tuesday, 2:30 PM-5:30 PM
Proposed Schedule
Draft #1 (subject to change)

Week	Date	Seminar Topics	Readings & Presentations	Assignments
1	Sept. 9	Administration/ Intro		
2	Sept. 16	<ul style="list-style-type: none"> • From reflex arcs & instincts to rationality 	<ul style="list-style-type: none"> • <i>Great chain of being</i> • <i>Instincts</i> • <i>Davidson/</i> • <i>Darwin/</i> • <i>Bermudiz</i> • <i>Cassier</i> 	1pg article review
3	Sept. 23	<ul style="list-style-type: none"> • Models of Rationality: PSS 	<ul style="list-style-type: none"> • <i>Leibnez</i> • <i>Newell/</i> • <i>Goel</i> • <i>Darwin's Mistake</i> 	1pg article review
4	Sept. 30	<ul style="list-style-type: none"> • Scope of PSS: the problem space hypothesis well-structured problems 	<i>Newell & Simon—HPS</i> <i>Newell, Shaw, Simon – GPS</i>	1pg article review
5	Oct. 7	TBA	TBA	1pg article review Draft 1 Term Paper
6	Oct. 14	Limits of PSS: <ul style="list-style-type: none"> • Ill-structured problems • Creativity/insight problems A role for association?	<i>Simon:</i> <i>Kolers</i> <i>Goell</i> <i>Goel2</i>	1pg article review
7	Oct. 21	<ul style="list-style-type: none"> • Reasoning: <ul style="list-style-type: none"> • mental logic • mental models • dual mechanism 	<i>Henle</i> <i>Johnson-Laird1</i> <i>Johnson-Laird2</i> <i>Evans1</i> <i>Evans2</i>	1pg article review

8	Oct. 28	• Decision Making: Heuristics and Biases	<i>Gigerenzer1996Psych Rev</i> <i>KahnemanTversky1996PsychRev1</i> <i>Todd-Gigerenzer_BBS</i> <i>Tversky_Kahneman</i>	1pg article review Draft 2 Term Paper
9	Nov. 4	Massive modularity	<i>Cosmides & Tooby</i> <i>Fodor</i> <i>Chiappe & MacDonald</i>	1pg article review
10	Nov. 11	• NonRational processes	Mate selection Alfa cues Cinderella	1pg article review
11	Nov. 18	• Putting the pieces together	TBA	1pg article review Final Paper due
12	Nov. 25	TBA	TBA	
13	Dec. 2	Study Day		

Note: Readings must be completed prior to the relevant class.

Week 2

<http://www.yorku.ca/vgoel/4270/week2/Reason&Rationality>

Week 3

http://www.yorku.ca/vgoel/4270/week3/Great_Chain_of_Being_Wikipedia

http://www.yorku.ca/vgoel/4270/week3/Darwin_Descent_Chap3

<http://www.yorku.ca/vgoel/4270/week3/instincts>

<http://www.yorku.ca/vgoel/4270/week3/cassirer>

http://www.yorku.ca/vgoel/4270/week3/Davidson_Thought

http://www.yorku.ca/vgoel/4270/week3/Jose_Bermudez

Week 4

http://www.yorku.ca/vgoel/4270/week4/Leibniz&Automation_of_Reason

http://www.yorku.ca/vgoel/4270/week4/Newell_PSSH

http://www.yorku.ca/vgoel/4270/week4/Goel_chapter_2_SoT

http://www.yorku.ca/vgoel/4270/week4/Goel_Chapter_3_SoT

<http://www.yorku.ca/vgoel/4270/week4/Darwin's-Mistake>

Oct 11

Reading week

Week 5

Newell & Simon. 1972. Human Problem Solving. Chapter 14 (Library)

http://www.yorku.ca/vgoel/4270/week5/Newell_GPS

Week 6

TBA π

Week 7

http://www.yorku.ca/vgoel/4270/week7/Simon_ill-structure

http://www.yorku.ca/vgoel/4270/week7/Goel_WIRE

<http://www.yorku.ca/vgoel/4270/week7/Goel.CNP>

http://www.yorku.ca/vgoel/4270/week7/Kolers_symbols

Week 8

<http://www.yorku.ca/vgoel/4270/week8/MaryHenle>

http://www.yorku.ca/vgoel/4270/week8/Johnson-Lairdmental_models_brain

<http://www.yorku.ca/vgoel/4270/week8/johnson-laird.2001>

(above 2 go together)

<http://www.yorku.ca/vgoel/4270/week8/EvansTICS>

<http://www.yorku.ca/vgoel/4270/week8/Evans>

(above 2 go together)

Week 9

http://www.yorku.ca/vgoel/4270/week9/Tversky_Kahneman

http://www.yorku.ca/vgoel/4270/week9/Todd-Gigerenzer_BBS

(article only... not commentary)

<http://www.yorku.ca/vgoel/4270/week9/Gigerenzer1996PsychRev>

<http://www.yorku.ca/vgoel/4270/week9/KahnemanTversky1996PsychRev>

(above 2 go together)

Week 10

http://www.yorku.ca/vgoel/4270/week10/Cosmides&Tooby_domain_general1994

<http://www.yorku.ca/vgoel/4270/week10/Chiappe.2005.EvolutionaryDomainGenerality>

http://www.yorku.ca/vgoel/4270/week10/Fodor_chap4

http://www.yorku.ca/vgoel/4270/week10/Fodor_LRB2

(above 2 go together)

Week 11

<http://www.yorku.ca/vgoel/4270/week11/Height&sucess>

http://www.yorku.ca/vgoel/4270/week11/CinderellaEffect_chapter

<http://www.yorku.ca/vgoel/4270/week11/MateSelectionCues>