

## Course Description

### 3250.03A Neural Basis of Behaviour

<b>Section: 3250.03A</b> <b>Time: Thursday 7:00 – 10:00PM</b> <b>Location: SLH-A</b> <b>TA: Ramy Kirolos &lt;ramyk1@yorku.ca&gt;</b>	<b>Course Director:</b> Prof. Vinod Goel <b>Office:</b> Lab BSB 037 <b>Tel:</b> please use email <b>Email:</b> vgoel@yorku.ca <b>Office Hrs:</b> Thurs. 6:00 – 7:00PM
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**Course Prerequisites:** AK/AS/HH/SC/PSYC 1010 6.00 or AK/HH/PSYC 2410 6.00, with a minimum grade of C; AK/AS/HH/SC/PSYC 2240 3.00 or AK/HH/PSYC 3145 3.00..

**Drop Date:** November 8, 2013.

**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 will be an introductory course in *cognitive neuroscience*. We will examine both human neuroanatomy and cognitive functioning and explore how the latter is underwritten by the former. The focus will be on the interplay between the neural and cognitive systems. The course will have a bias towards “higher” cognitive functions such as memory, language, and reasoning.

**Class Format:** There will be two lecture hrs. and one tutorial hr. each week. Tutorials will be devoted to group discussion of readings and lecture material. Specific questions for discussion will be assigned.

- Requirements:**
- 1) One assignment (20% of grade)
    - Details attached below.
  - 2) Participation in class exercises & presentations (10% of grade)
    - Details attached below.
  - 3) Two tests (70% of grade)
    - Details attached below.

#### Texts

1. Gazzaniga, Ivry, &Mangan (2009). Cognitive Neuroscience: The biology of the Mind (3rd Edition). Norton and Company.

#### Articles:

<http://www.pensamientocomplejo.com.ar/docs/files/Von%20Neuman%20-%20Central%20and%20Logical%20Theory%20of%20Automata.pdf>

[http://www.yorku.ca/vgoel/reprints/Goel\\_WIRE2010.pdf](http://www.yorku.ca/vgoel/reprints/Goel_WIRE2010.pdf)

[http://www.yorku.ca/vgoel/reprints/Goel\\_TiCS.pdf](http://www.yorku.ca/vgoel/reprints/Goel_TiCS.pdf)

[http://www.yorku.ca/vgoel/courses/3260/Goel\\_3260\\_articles/Article\\_10.pdf](http://www.yorku.ca/vgoel/courses/3260/Goel_3260_articles/Article_10.pdf)

**Assignment (20%):** A 6 page paper answering a specific question is required. It is worth 20% of the final grade. Select a topic from those provided by the TA. The Turnitin system will be used to check for plagiarism.

**Late Assignments:** Assignments are due at the beginning of class on the day(s) indicated on the attached Schedule. Late assignments will be penalized ONE point per calendar day. 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.

**Tests (70%):**

There will be 2 in-class tests on the dates indicated on the schedule. Each test will have a duration of 2.5 hours and will consist of multiple choice questions and written essay questions. The ratio of multiple-choice to written essay questions will not be known in advance. Please do not ask. The tests will be cumulative. The grade value of each test is indicated on the weekly schedule. The test material will be based on the lectures, the textbook, and assigned articles.

**Makeup Tests:** I allow students to miss and rewrite one of the tests. There will be one makeup test for each scheduled test. Given the limited number of multiple-choice questions available, there may be few 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 tests.

**Participation Grade (10%):**

At the end of every lecture each student will write and submit a "2 minute" essay in which you make relevant, cogent remarks and/or ask relevant cogent questions about the lecture material. These will be worth a total of 5 points. Vocal classroom participation will also be worth 5 points. There will be no substitute assignments to make up missed 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.

**3250.03A Neural Basis of Behaviour**  
**F/13, Thursday 7-10pm**  
**Proposed Schedule**

<b>Week</b>	<b>Date</b>	<b>Lecture Topics</b>	<b>Readings</b>	<b>Assignments</b>
1	Sept 12	Intro to Cognitive Neuroscience	G,I&M/1	
2	Sept 19	CNS Anatomy & Development	G,I&M/ 3	
3	Sept 26	Cellular Mechanisms & Neural Computation	G,I&M/ 2 Von Neumann	Topic for paper
4	Oct 3	CNS Methodologies	G,I&M/4	
5	Oct 10	Visual perception	G,I&M/ pp.177-206	
6	Oct 17	Object Recognition  Memory	G,I&M/ pp.207-249 G,I&M/8	
<b>7</b>	<b>Oct 24</b>	<b>Midterm (50%)</b>		
	Oct 31	University Closed		
8	Nov 7	Catchup or Language		
9	Nov 14	Hemispheric Specialization	G,I&M/11	
10	Nov 21	PFC & Complex Cognition 1	Goel TBA	Paper Due
11	Nov 28	PFC & Complex Cognition 2	Goel TBA	
<b>12</b>	<b>Dec 5</b>	<b>Test 3 (20%)</b>		