

# Cognitive Neuroscience

## I) Course information

Course number: PSYC55H3 S

Mondays, 10 am – 12 pm  
Section: L01 2007 S  
Place: HW 214

Prerequisites: PSYB57 & PSYB65

## II) Instructor:

Dr. Matthias Niemeier  
1265 Military Trail S572  
phone: 416-287-7466  
e-mail: niemeier@utsc.utoronto.ca I will respond within two working days.  
Office Hours: Wednesdays, 12:30 pm – 1:30 pm.

I received my MA at the University of Hamburg (Germany) and my PhD at the University of Tübingen (Germany). From October 2000 – June 2003 I've been working as a postdoctoral fellow at UofT's Department of Physiology. Since July 1st, 2003 I'm an assistant professor at UTSC.

## III) Teaching Assistant:

Bobby Stojanoski.  
e-mail: stojanoski@utsc.utoronto.ca

## IV) Course coverage and goals

PSYC55 aims at introducing you to the interdisciplinary field of cognitive neuroscience. The course has two goals. The first is to provide you with a "tool-kit" of knowledge about the field. – WHAT are the important methods and findings relating brain functions to cognitive processes? Here are some of the methods that will be covered: neurophysiological methods, studies on brain-damaged patients, transcranial magnetic stimulation, functional imaging, and computer simulations. I will talk about cognitive functions such as perception, control of motor actions, attention, memory, language, and executive functions. Another goal of the course is to look at questions such as, WHY does the brain work the way it works? That is, I hope the course will help you understand the key issues and principles of cognitive neuroscience.

## V) Textbook

**Required**  
**Title:** The Student's Guide to Cognitive Neuroscience  
**Authors:** J. Ward  
**Publisher:** Psychology Press: Hove  
**ISBN:** 1-84169-535-1 (paperback)

## VI) Web pages

Course Web Site: intranet page

Here you will find the syllabus, the most up-to-date version of the lecture schedule, and announcements. Also, I will put the lecture slides on that page.

Please check on a regular basis for announcements.

## VII) Evaluation

### Overview:

I hope that the cognitive neuroscience course will provide you with a sound knowledge about the field, and a good understanding of the important mechanisms. I will determine your grade based on two exams. Here are the details:

**40% Mid-term test.** Scheduled for TBA. Two hours.

**60% Final Term test.** TBA. Two hours.

Exams will have multiple-choice and short-answer questions. The final exam will be cumulative. Material on the exams will include both lecture material and text readings. Although the topics covered will overlap, different things may be emphasized in class than in the book. Therefore, I recommend class attendance. E.g., you need to come to class to hear the details and see videos and demonstrations. The text is intended to reinforce and supplement material presented in class.

## VIII) Schedule

This schedule is subject to changes as we go along. The most up-to-date schedule will be on the web.

Day	Topics	Chapter(s)
8 Jan	Welcome and History	1
15 Jan	The Functional Anatomy of the Brain	2
22 Jan	Methods of Cognitive Neuroscience I	3-5
29 Jan	Methods of Cognitive Neuroscience II	3-5
5 Feb	Motor Control & Action	8
12 Feb	Perception	6
19 Feb	Reading Week	
TBA	Mid-term	
26 Feb	High-level Vision	6
5 Mar	Space and attention	7
12 Mar	Learning and Memory	9
19 Mar	Language	10,11
26 Mar	Executive functions	13
2 Apr	Emotions, Lateralization	14

## IX) Course Policies

For academic regulations (such as UTSC's official grading practices policy, petitions, code of behaviour on academic matters etc.) please refer to the UTSC calendar.