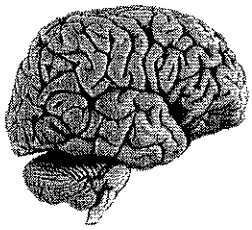

NROC61 TENTATIVE COURSE SYLLABUS: Summer 2006

NEUROSCIENCE II: LEARNING AND MOTIVATION

Instructor:
Dr J. C. LeBoutillier
Room S-557
287-7430
Office hours: Thurs 10-12 am

Email: leboutillier@utsc.utoronto.ca

Teaching Assistants:

Crystal Dykstra crystal.dykstra@gmail.com

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Lectures:
Thurs 14:00 – 17:00 HW 214

Tutorials:

TUT0001	Thurs	12:00	1:00	MW 262	Zenya
TUT0002	Thurs	12:00	1:00	MW 223	Crystal

Course Description:

This course introduces the students to learning and motivation from a physiological and behavioral perspective. Topics covered under the category of motivation include: physiological basis of eating, drinking and sexual behavior, sleep, and the neural correlates of reward. Topics covered under learning include: learning categories, memory systems and the cell and molecular basis of learning and memory.

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. Tina Doyle, the UTSC AccessAbility Manager 416 287-7560 is available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The

sooner you let us now about your needs, the quicker we can assist you in achieving your learning goals in this course.

Course Material:

For the lecture part of the course, the student will be responsible for:

1. All material covered during lectures
2. Assigned text chapters and primary readings

Tutorials

The tutorials are intended to familiarize the student with the general knowledge base of neuroscience, namely the published literature. The tutorial assignments will include:

1. Using the library (or internet) referencing services to obtain a list of current references on an assigned topic.
2. A 10 minute class presentation describing an empirical article followed with 3-5 minutes for class discussion.
3. A mini-review of 5 to 7 empirical articles.

Details on each of these assignments are posted in the tutorial section of the course Intranet.

Grading

The assignment of grades will be based upon the following:

1. One midterm examinations - 25% . Test and exam will include MC and written components such as FIB, short answers.
2. A comprehensive final examination - 40%.
3. Tutorial grade 35%
    a. Abstract list – 7.5 %
    b. Class presentation – 5 %
    c. Mini review - 15%
    d. Class participation – 7.5 %

Missed Tests and Late Assignments

Makeup exams and requests to reschedule your assigned class presentation date will only be considered with a note from a physician, otherwise a "0" will be recorded for that exam. Please use only the medical note available for download at www.utsc.utoronto.ca/~registrar/. Late written assignments will be accepted with a penalty of 10% per day. All assignments are due at the start of the tutorial.

Texts

We will be using 3 chapters from the Purves text you used last year in NROB60. In addition, chapters from 2 additional texts will be used as indicated in the course schedule which follows. Copies of all texts are available on short-term loan. Text information will be discussed further at the first class.

Purves et al., **Neuroscience** 3rd edition

Rosenzweig et al., **Biological Psychology : An Introduction to Behavioral and Cognitive Neuroscience** 4th edition
Carlson, **Physiology of Behavior** 8th edition

Assigned Readings

You will also be required to read the following articles. Copies of these articles are available in the library and several can be downloaded from our library.

Damasio, AR. (2002). Remembering when. *Scientific American* 287 (September) pp 66-73.

Fields, R.D. (2004). The other half of the brain. *Scientific American* 290 (April) 54-61.

Hall, S.S. (2003). The quest for a smart pill. *Scientific American* (Sept) 54-65.

Goldstein, I. (2000). Male sexual circuitry. *Scientific American* (August), 283, 70-75.

Kinsley, CH & Lambert, KG. (2006). The maternal brain. *Scientific American* (January), 72-79.

LeDoux, JE. (1994). Emotion, memory and the brain. *Scientific American* (June), 2270, 50-57.

Nestler, E.J., & Malenka, R.C. (2004). The addicted brain. *Scientific American (March)* 290 78-85.

McKinley, MJ., et. al. (2004). Physiological and pathophysiological influences on thirst. Physiology and Behavior, 81, 795-803.

Sapolsky, R. (2003). Taming stress. *Scientific American*, (Sept) 87-95.

Siegel, J.M. (2003). Why we sleep. *Scientific American*, (Nov) 289, 92-97.

Treffert, DA & Christensen, DD. (2005). Inside the mind of a savant. *Scientific American,* (Dec) 108-113.

Walsh, BT & Devlin, MJ. (1998). Eating disorders: progress and problems. *Science,* 280,1387-1390.

Wright, K. (2002). Times of Our Lives. *Scientific American* , (Sept) 287, 58-65.

COURSE SCHEDULE

Week	Date	Topic	Assigned Lecture Readings	Assigned Primary Reading
1	May 11	Course Introduction Regulation of Internal Body States		
2	May 18	Physiology and Neurobiology of Thirst	Rosenzweig Chap 13	McKinley al.
3	May 25	Physiology and Neurobiology of Eating	Rosenzweig Chap 13	Walsh & Devlin
4	June 1	Biological Clocks	Purves Chap 27	Wright
5	June 8	Sleep and wakefulness		Siegal
6	June 15	**Midterm test in class**		
	June 22	Sex, Sexuality and the Brain	Purves Chap 29	Goldstein Kinsley & Lambert
7	June 29	READING WEEK		
8	July 6	Learning and Memory: Biological Perspectives	Rosenzweig Chap 17	Damasio
9	July 13	Learning and Memory: Neural Mechanisms	Rosenzweig Chap 18	Hall Fields
10	July 20	Learning and Memory: Continued		Treffert & Christense
11	July 27	Neural Correlates of Reward	Carlson Chap18	Nestler & Malenka
12	Aug 3	Physiology of Emotions and Stress	Purves Chap28	Sapolsky LeDoux