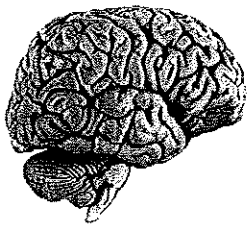

NROC61 TENTATIVE COURSE SYLLABUS

Summer 2008

NEUROSCIENCE II: LEARNING AND MOTIVATION

Instructor:
Dr J. C. LeBoutillier
Room S-557
416-287-7430
Office hours: Thurs 16:00 to 17:00, or by appointment

Email: nroc61@utsc.utoronto.ca
NOTE: This is the only email account that will be monitored for this course.

Teaching Assistants:

Crystal Dykstra	crystal.dykstra@gmail.com
Sherri Thiele	sthiele@utsc.utoronto.ca
Andreea Moraru	andreea-m@sympatico.ca

Lectures:
Thurs 13:00 to 16:00, HW215

Tutorials:

TUT0001	Thurs	12:00	1:00	HW 215
TUT0002	Thurs	12:00	1:00	BV 361
TUT0003	Thurs	11:00	12:00	BV 361

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 know about your needs, the quicker we can assist you in achieving your learning goals in this course.

Course Material:

Students will be responsible for:

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

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 oral presentation describing an assigned reading followed by 3-5 minutes of class discussion.
3. A mini-research proposal.

Details on each of these assignments are posted as part of the tutorial syllabus on the course Intranet.

Grading

The assignment of grades will be based upon the following:

1. One midterm examination - 20% . This test will include MCQs, matching and written components such as definitions and long answers. All lectures, assigned text readings, and empirical articles as listed in the syllabus to be covered during the first 5 weeks will be tested.
2. A final examination - 35%. The format of the final will be similar to the midterm. You will be responsible for all lecture material covered during the course, but only the assigned readings and text chapters not covered on Test 1.
3. Tutorial grade 45 %
    a. Abstract list – 10 %
    b. Oral presentation – 5 %
    c. Research proposal -15%
    d. Class participation – 5%
    e. Quizzes – 10 %

Missed Tests and Presentations

Makeup exams will not be scheduled in this course. If you miss the midterm test you will be permitted to write a final cumulative exam on all course content valued at 55% of your final grade provided you meet the following criteria.

1. Notify me by email ASAP following the missed test.

2. Deliver a medical note from a physician to me within 2 weeks of the test. Please use only the official medical note available for download at www.utsc.utoronto.ca/~registrar/. No other notes will be accepted. If these criteria are not met a grade of zero will be assigned.

A grade of zero will be given if you do not give your presentation on the assigned date. Missed presentations will only be rescheduled provided an official medical note downloaded from the UTSC website indicated above is delivered to your TA ASAP. You should be prepared to give your presentation at any tutorial following the missed date. Your TA will try to give you advance notice but this may not be possible. In the event that time does not permit us to reschedule your presentation during the term, you may be required to give your presentation during the reading week before the final exams. Failure to give your presentation on the assigned date will result in a grade of zero

Late Assignments

Late abstract lists and research proposals will be accepted with a penalty of 10% per day. All assignments are due at the start of the tutorial.

Texts

- Bear, Connors & Paradiso, **Neuroscience: Exploring the Brain** 3rd edition

Assigned Readings

You will be required to read the following articles. Copies of these articles are available in the library and most can be downloaded in an Adobe Acrobat (pdf) format.

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

Gura, T. (2003). Obesity drug pipeline not so fat. Science, 299, 849-852.

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

Kinsley, C.H & Lambert, K.G. (2006). The maternal brain. *Scientific American* (January), 72-79.

LeDoux, J.E. (2003). The emotional brain, fear and the amygdala. *Cellular and Molecular Neurobiology, 23,*727-738.

Lynch, G. (2002). Memory enhancement: the search for mechanism-based drugs. *Nature Neuroscience, 5,* 1035-1038.

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

McKinley, M.J., 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.

Tsigos, C, & Chrousos, G.P. (2002). Hypothalamic-pituitary-adrenal axis, neuroendocrine factors and stress. *Journal of Psychosomatic Research, 53,* 865-871.

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 8	Course Introduction Regulation of Internal Body States		
2	May 15	Introduction to the LSS Physiology and Neurobiology of Thirst	Chapter 16	McKinley et al.
3	May 22	Physiology and Neurobiology of Eating	Chapter 16	Gura
4	May 29	Biological Clocks Sleep and wakefulness	Chapter 19	Wright
5	June 5	Sex, Sexuality and the Brain	Chapter 17	Kinsley & Lambert Goldstein
6	June 12	Learning and Memory Biological Perspectives	Chapter 24	Lynch
	June 19	No lecture, Review for midterm		
7	June 26	Midterm test requested		
8	July 3	Reading Week		
9	July 10	Learning and Memory: Neural Mechanisms	Chapter 25	Hall
10	July 17	Neural Correlates of Reward Final Paper Review	Chapter 15	Nestler & Malenka
11	July 24	Physiology of Emotions	Chapter 18	LeDoux
12	July 31	Stress Final Exam Review		Tsigos & Chrousos Sapolsky

Content listed for Weeks 1 to 5 inclusive will be tested on the midterm.