NROC61 TENTATIVE COURSE SYLLABUS

LEARNING AND MOTIVATION
FALL 2011

Instructor:
Dr J. C. LeBoutillier
Room S-557
416-287-7430
Office hours: Tues immediately following the lecture
Tues 1:30 to 3 pm in SW557

Email: nroc61@utsc.utoronto.ca
NOTE: This is the only email account monitored for the course. Course announcements will be made through the Intranet.

Teaching Assistants:
TBA

Lectures:
Tues 9:00 – 12:00 SW 143

Tutorials:

TUT0001	Wed	11:00	12:00	MW 264
TUT0002	Wed	11:00	12:00	IC 328
TUT0003	Wed	12:00	1:00	MW 264
TUT0004	Wed	12:00	1:00	IC 328

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, 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. 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 students 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. An oral presentation
3. A research proposal

Grading

The assignment of grades will be based upon the following:
1. One midterm examination – 25%. This test will include MCQs and written components such as definitions and long answers.
2. A final examination – 40%. The format of the final will be similar to the midterm. You will be responsible for all lecture material covered during the entire course, but only the assigned readings and text chapters not covered on Test 1.
3. Tutorial grade – 35%.

    a. Abstract list – 10%

    Topics will be assigned following your first tutorial and this assignment will be due no later than Wed Oct 12, 2011.

    Using the library/internet referencing services, students must hand in a list of abstracts from 10 ***empirical*** articles (i.e. articles must be original research articles NOT reviews) from 2008 to present) on your assigned topic. In addition, for 5 of the 10 abstracts you should submit an annotated bibliography. Next, on a separate page you should prepare a reference list with the 10 empirical articles following APA format. You will include a minimum of 3 articles from this list for the final assignment (#3). Lastly, you should include in this assignment 1 to 2 sentences describing an idea for a research proposal, which will be approved by your TA for the final Assignment (#3).

    b. Class presentation – 6%

    Each presentation will be 15 minutes in length – 10 minutes should be allocated to present full details of a neuroscience method/technique/behavioural task and 5 minutes to answer class questions. Marks will be awarded for clarity and organization of the presentation, and the ability to answer questions at the end of the presentation. Presentation schedules will be posted online in your tutorial

section. Topics will be finalized no later than week 3 of tutorials.

c. Research Proposal – 15%

This proposal is due no later than Wed Nov 23, 2011 at 5 pm. You are required to submit your paper electronically to the Assignment Box on Blackboard **AND** also to Turnitin. This will be discussed during the first lecture. Details on submitting your assignment through Blackboard will be presented prior to the due date.

The grading scheme will be as follows:

- Abstract – 2%
- Clarity of proposal – 10%
- Use of APA format – 3 %

The proposal must contain the following sections:

• **Title page**:

- Title, your name, name of the institution, running head, a header containing the page number, and word count placed in the bottom right corner. (page 1)

• **Abstract**:

- One paragraph that briefly describes the area of interest and the research question and hypothesis that will be addressed in the proposal. (page 2)

• **Introduction**:

- This section should describe the research area and findings from previous studies. The literature review should also discuss an issue or question that needs to be addressed in that area and provide a rationale for your proposed study. (pages 3-5)

• **Methods**:

- This section should describe the proposed method for the experiment, including who the subjects will be (e.g. for a clinical study: mean age, sex, education level etc. of participants and where they will be recruited from), what equipment/tools will be used, and the detailed procedure that will be followed. You should specify the variables (independent and dependent) that will be used in the experiment. (pages 6-7)

• **Discussion:**

- This section should describe the research limitations and significance of potential findings. DO NOT create and/or include a results section. (page 8)

• **References**:

- You must have **a minimum of 5 and a maximum of 12 primary sources. At least 3 of the articles from Assignment 1 should be included in this assignment.** If you wish, you may choose to include all of the references from Assignment 1.

- You must format your references using the guidelines developed by the APA Publication Manual (5th or 6th edition). This manual is available in the library and there are several excellent resources available online. (page 9)

NOTE: A maximum of 10 pages for this assignment will be read by your TA.

d. Class participation – 4%

Students are expected to attend and participate in weekly tutorials.

Missed Tests and Presentations

Makeup tests 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 65% of your final grade, provided you meet the following criteria:

1. Notify me by email ASAP following the missed test using the course email.
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. A presentation schedule will be posted to your tutorial section. Missed presentations will only be rescheduled provided a medical note as described 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.

Late Assignments

Late assignments will be accepted with a penalty of 10% per day. Assignment 1 is due as a hard copy no later than the start of your tutorial on Oct 12 and Assignment 3 is due electronically no later than 5 pm on Nov 23 2011.

Texts

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

Assigned Readings

You will be required to read the following articles. PDFs of these articles can be downloaded from the library without cost.

Diekelmann, S., Wilhelm, I., & Born, J. (2009). The whats and whens of sleep-dependent memory consolidation. *Sleep Medicine Review, 13,* 309-321.

Eskandari, F., & Sternberg, E.M. (2002). Neural-immune interactions in health and disease. *Annals of the New York Academy of Science, 966,* 20-27.

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

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

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

Marx, J. (2003). Cellular warriors at the battle of the bulge. *Science, 299,* 846-849.

McKinley, M.J., Cairns, M.J., Denton, D.A., Egan, G., Mathai, M.L., Uschakov, A., et al. (2004). Physiological and pathophysiological influences on thirst. *Physiology and Behavior, 81,* 795-803.

Schneider, J.E. (2006). Metabolic and hormonal control of the desire for food and sex: Implications for obesity and eating disorders. *Hormones and Behavior, 50,* 562-571.

Squire, L.R. (2009). Memory and brain systems:1969-2009. *The Journal of Neuroscience, 29(41)*: 12711-12716.

Sutcliffe, J.G., & de Lecea, L. (2002). The hypocretins: Setting the arousal threshold. *Nature Review, 3,*339-349.

Tsien, J.Z. (2000). Building a brainier mouse. *Scientific American, 282,* 62-68.

COURSE SCHEDULE

Week	Important Dates	Topic	Assigned Lecture Readings	Assigned Primary Reading
1		Course Introduction Regulation of Internal Body States	Chapter 15 (Hypothalamus 484-90)	
2		Assignment 1 Discussion Physiology and Neurobiology of Thirst	Chapter 16	McKinley et al.
3		Physiology and Neurobiology of Eating	Chapter 16	Marx
4		Biological Clocks: Sleep and Wakefulness	Chapter 19	Schneider
5	**Oct 12**	Sex, Sexuality and the Brain Assignment 1 due at start of tutorial	Chapter 17	Kinsley & Lambert Goldstein
6	Oct 19	Midterm requested this week Actual date to be confirmed by Registrar		
7		Assignment 3 discussion Learning and Memory: Biological		Squire
8		Learning and Memory: Biological	Chapter 24	Tsien

9		Learning and Memory: Neural Mechanisms	Chapter 25	Diekelemann et al.
10	SFN	Learning and Memory con'd Neural Correlates of Reward	Chapter 15	Sutcliffe& de Lecea
11	Nov 23	Physiology of Emotions Assignment 3 by 5 pm	Chapter 18	LeDoux
12		Stress (and Final Exam Updates)		Eskandari & Sternberg

NOTE: Content listed for Weeks 1 to 5 inclusive and highlighted in yellow will be tested on the midterm.
Content listed for Weeks 6 to 12 AND all lecture content (Week 1-12) will be on the final exam.

Turnitin:

First, some background information on this program. Turnitin.com is a tool that assists in detecting textual similarities between compared works (i.e. it is an electronic resource that assists in the detection and deterrence of plagiarism). More information is available on the Turnitin website.

Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

As indicated on the turnitin home page, all work submitted to Turnitin is checked against three databases of content:
• A current and archived copy of the publicly accessible Internet
• Millions of published works (from ABI/Inform, Periodical Abstracts, Business Dateline, ProQuest, the Gutenberg Collection of literary classics, and tens of thousands of electronic books)
• Millions of student papers submitted to Turnitin since 1996

Students will submit Assignment 3 to the turnitin.com site (www.turnitin.com). Detailed instructions on setting up your account can be found on this page. You must set up your own account and will need the following information: Course name: NROC61 Fall 2011, Class ID #: 4152319, and Enrolment Password: cortex.