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:
<table>
<thead>
<tr>
<th>TUT0001</th>
<th>Wed</th>
<th>11:00</th>
<th>12:00</th>
<th>MW 264</th>
</tr>
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<tbody>
<tr>
<td>TUT0002</td>
<td>Wed</td>
<td>11:00</td>
<td>12:00</td>
<td>IC 328</td>
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<tr>
<td>TUT0003</td>
<td>Wed</td>
<td>12:00</td>
<td>1:00</td>
<td>MW 264</td>
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<tr>
<td>TUT0004</td>
<td>Wed</td>
<td>12:00</td>
<td>1:00</td>
<td>IC 328</td>
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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/](http://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**


**Assigned Readings**

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


### COURSE SCHEDULE

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<tr>
<th>Week</th>
<th>Important Dates</th>
<th>Topic</th>
<th>Assigned Lecture Readings</th>
<th>Assigned Primary Reading</th>
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<tr>
<td>1</td>
<td></td>
<td>Course Introduction</td>
<td>Chapter 15 (Hypothalamus 484-90)</td>
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<td></td>
<td>Regulation of Internal Body States</td>
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<td>McKinley et al.</td>
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<td>2</td>
<td>Assignment 1 Discussion</td>
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<td>Chapter 16</td>
<td>Marx</td>
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<td></td>
<td>Physiology and Neurobiology of Thirst</td>
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<td>Chapter 19</td>
<td>Schneider</td>
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<td>3</td>
<td>Physiology and Neurobiology of Eating</td>
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<td>Chapter 17</td>
<td>Kinsley &amp; Lambert</td>
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<td>4</td>
<td>Biological Clocks: Sleep and Wakefulness</td>
<td></td>
<td>Chapter 24</td>
<td>Tsien</td>
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<tr>
<td>5</td>
<td>Oct 12</td>
<td>Sex, Sexuality and the Brain</td>
<td>Assignment 1 due at start of tutorial</td>
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<td>Assignment 1 due at start of tutorial</td>
<td>Chapter 17</td>
<td>Goldstein</td>
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<td>6</td>
<td>Oct 19</td>
<td>Midterm requested this week</td>
<td>Actual date to be confirmed by Registrar</td>
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<td>Assignment 3 discussion</td>
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<td>Chapter 24</td>
<td>Squire</td>
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<td>Learning and Memory: Biological</td>
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<td>Chapter 24</td>
<td>Tsien</td>
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<td>Due Date</td>
<td>Chapter</td>
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<td>Learning and Memory: Neural Mechanisms</td>
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<td>Chapter 25</td>
<td>Diekelemann et al.</td>
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<td>SFN Learning and Memory con’d Neural Correlates of Reward</td>
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<td>Chapter 15</td>
<td>Sutcliffe &amp; de Lecea</td>
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<tr>
<td>11</td>
<td>Physiology of Emotions Assignment 3 by 5 pm</td>
<td>Nov 23</td>
<td>Chapter 18</td>
<td>LeDoux</td>
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<tr>
<td>12</td>
<td>Stress (and Final Exam Updates)</td>
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<td>Eskandari &amp; Sternberg</td>
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**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](http://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.