UNIVERSITY OF CALGARY

Department of Psychology
Psychology 478 (L01) – Behavioural Neuroscience
Winter 2011 – Course Outline

Instructor:	Dr. G. Campbell Teskey	**Lecture Location:**	Admin 051/053
Phone:	403-220-4962	**Lecture Days/Time:**	Tues/Thurs 9:30-10:45
Email:	gteskey@ucalgary.ca	**Lab 01:**	Wed 1:00-3:50
Office:	HSC 2103	**Lab 02:**	Fri 1:00-3:50
Office Hours:	By appointment	**TA:**	Brooke Rakai
		Email:	bdrakai@ucalgary.ca

Course Description and Goals
The principle function of the nervous system is to produce behaviour. Thus, the goal of most behavioural work with laboratory animals in neuroscience is to understand how the nervous system produces behaviour and how experience changes the functioning of the nervous system. Understanding the brain-behaviour relationships also offers a way to find treatments for dysfunctions of behaviour. While dramatic advances have occurred at the molecular and cellular levels how these established factors ultimately impact behaviour will primarily be examined in rodents (mainly rats).

This course has multiple objectives that include, but are not limited to, the following;

1) Introduce students to the field of behavioural neuroscience.
2) Describe the organization and complexity of rodent behaviour.
3) Familiarize students with multiple behavioural apparatus and behavioural tests.
4) Relate behaviours to localized regions of the brain.
5) Provide students with hands on experiential learning opportunities with rodents.

Most students do find that taking the course is a worthwhile experience but there is no doubt that it requires real work. The course is considered as, and taught as, a senior-level course.

Prerequisites
Psyc 312 – Principles of Psychology and Psyc 375 – Brain and Behaviour or consent of the Department

Required Text
The Behaviour of the Laboratory Rat: a handbook with tests. Edited by Ian Q. Whishaw and Bryan Kolb, Oxford University Press, 2005
Text is available in the University Bookstore.

Important
See the Calendar description on pages 257-258 regarding “Ethics in Neuroscience”. All students should be prepared to work with live behaving animals. All work in the course conforms to the

Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The course strives for the highest ethical standards. Lab coats are recommended.

Evaluations

The students should consider each Lab/Lecture write-up below as a take home exam. The expectation is that both the lab and lecture material will be used in the write up.

Lab/Lecture write-up #1 – Sexual Behaviour and Mating (5% of 20% of final grade) **due Friday Jan 29th.** Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the TA.

Lab/Lecture write-up #2 - Movement (5% towards 20% of final grade) **due Friday Feb 5th**. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the TA.

Lab/Lecture write-up #3 – Skilled Behaviour (5% towards 20% of final grade) **due Friday Feb 12th.** Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the TA.

Lab/Lecture write-up #4 – Maternal Behaviour (5% towards 20% of final grade) **due Friday Feb 18th.** Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the TA.

Student Project Proposal (5% of final grade) **due Monday Mar 8th**. The writing quality is a factor in the evaluation. This assignment is marked by the instructor.

Lab/Lecture write-up #5 – Fear, Anxiety, Depression (5% towards 20% of final grade) **due Friday Mar 12th**. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the TA.

Note that each student's top 4 marks (out of 5% each) on Lab/Lecture write-ups #1 to #5 will be used for a total of 20% of the final grade. The lowest mark over the Lab/Lectures #1 to #5 will be dropped.

Lab/Lecture write-up #6 – Parkinson's disease (10% of final grade) **due Friday Mar 26th**. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the TA.

Lab/Lecture write-up #7 – Learning and Memory (10% of final grade) **due Friday April 2nd**. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the TA.

Laboratory Project write-up (20% of final grade) **due Friday April 15th**. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the instructor.

In-Class Student Presentations (10% of final grade), **scheduled on April 5, 7, 12, and 14**.

Students will give a PowerPoint presentation on an approved topic within the field of Behavioural Neuroscience that is not related to their laboratory project or final paper. The length of the presentation will be ~7 minutes with ~3 minutes for questions. This assignment is marked by the instructor.

Critical Written Feedback on Presentations (5% of final grade). All students will also provide the instructor with written critical feedback on all in-class student presentations. This assignment is marked by the instructor.

Final Paper (20% of final grade) **due Friday, April 15th**.
Students will write a final paper on an approved topic within the field of Behavioural Neuroscience that is not related to their Laboratory project or in-class presentation.
Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the instructor.

The hardcopy of all of the evaluations (expect the PowerPoint presentation) will be due by the time the Psychology Main Office closes (4:00). Late exams and the major essay will be docked 10% per day excluding weekends. **Make sure your exams and reports are date stamped**, and leave it in the drop-off box located on the counter in Room A275. E-mailed assignments will **NOT** be accepted. Students must achieve a passing grade on both the class and lab components to pass this course.

Grading Scale

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades. To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., 89.5% will be rounded up to 90% = A, but 89.4% will be rounded down to 89% = A-).

Tentative Lecture Schedule

Date	Topic/Activity/Readings/Due Dates
T Jan 11	Class Introduction, Instructor, Behavioural Neuroscience Lecture begins.
R Jan 13	History of the discipline, Perspectives
T Jan 18	Sexual Behaviour – reproduction, sex, gender
R Jan 20	Sexual Behaviour – mate choice, signals and mating
F Jan 21	Last day to drop a course with no W grade and tuition refund.
M Jan 24	Last day for registration/change of registration.
T Jan 25	Skilled Behaviour - overview
R Jan 27	Skilled Behaviour – motor maps
T Feb 1	Maternal Behaviour – overview
R Feb 3	Maternal Behaviour – epigenetics
T Feb 8	Fear, Anxiety, Depression – overview

R Feb 10	Fear, Anxiety, Depression – the tests, the problem with inferred central processes
T Feb 15	My research program
R Feb 17	**Canadian Spring Conference on Behaviour and Brain. No lecture.**
T Feb 22	**Reading days. No lecture.**
R Feb 24	**Reading days. No lecture.**
T Mar 1	Parkinson's Disease – overview, anatomy and pathophysiology
R Mar 3	Parkinson's Disease – Animal models (guest lecturer Andrew Brown)
T Mar 8	Brain Stimulation – overview
R Mar 10	Brain Stimulation – Deep brain
T Mar 15	Learning and memory: Spatial abilities
R Mar 17	Learning and memory: Hippocampal function
T Mar 22	Learning and memory: Recognition
R Mar 24	Overview of Behavioural Neuroscience
T Mar 29	Overview of Behavioural Neuroscience
R Mar 31	Overview of Behavioural Neuroscience
T Apr 5	Student Presentations (~10 minutes each)
R Apr 7	Student Presentations (~10 minutes each)
T Apr 12	Student Presentations (~10 minutes each)
R Apr 14	Student Presentations (~10 minutes each) Lecture ends. Last day to participate in research and allocate research credits.
F Apr 15	Last day to withdraw.

Tentative Laboratory Schedule

Jan 5 – 9, 2009	Block Week
Week 1 – Jan 12 or 14	Rodent Handling and Ethics
Week 2 – Jan 19 or 21	Sexual Behaviour and Mating (ear wiggling, lordosis, mounting)
Week 3 – Jan 26 or 28	Adult Behaviour (ground locomotion, swimming, grooming, nest building, food handling, dodging and robbing)
Week 4 – Feb 2 or 4	Skilled Behaviour (single pellet, pasta matrix, rung walking, sticky tape test)
Week 5 – Feb 9 or 11	Maternal Behaviour (nursing, licking & grooming, pup retrieval)
Week 6 – Feb 16 or 18	Canadian Spring Conference on Behaviour and Brain Feb 17 to 19 **– No Labs.**
Week 7 – Feb 23 or 25	Reading Days **– No Labs.**
Week 8 – Mar 2 or 4	Fear and Anxiety (open field, elevated plus maze, Porsolt swim, startle, defensive burying)
Week 9 – Mar 9 or 11	Parkinson's Disease (cylinder)
Week 10 – Mar 16 or 18	Deep Brain stimulation (cylinder)
Week 11 – Mar 23 or 25	Learning and Memory: Spatial (Morris water task), Recognition (Mumby novelty task)
Week 12 – Mar 30 or April 1	Time to collect data for Lab project

Week 13 – April 6 or 8	Time to collect data for Lab project
Week 14 – April 13 or 15	Time to collect data for Lab project
Fri Apr 15	Last day to withdraw from Winter Session half courses

Reappraisal of Grades

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded, may have the work re-graded as follows. The student shall discuss the work with the instructor within 15 days of being notified about the mark or of the item's return to the class. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 15 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 15 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed, the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

Plagiarism and Other Academic Misconduct

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

Academic Accommodation

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than 14 days after the start of this course.

Absence From A Test/Exam

Makeup tests/exams are NOT an option without an official University medical excuse (see the University Calendar). A completed Physician/Counselor Statement will be required to confirm absence from a test/exam for health reasons; the student will be required to pay any cost associated with this Statement. Students who miss a test/exam have 48 hours to contact the instructor and to schedule a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Except in extenuating circumstances

(documented by an official University medical excuse), a makeup test/exam must be written within 2 weeks of the missed test/exam.

Freedom of Information and Protection of Privacy (FOIP) Act
The FOIP legislation disallows the practice of having student's retrieve tests and assignments from a public place. Therefore, tests and assignments may be returned to students during class/lab, or during office hours, or via the Department Office (Admin 275), or will be made available only for viewing during exam review sessions scheduled by the Department. Tests and assignments will be shredded after one year. Instructors should take care to not link students' names or UCIDs with their grades or other FOIP-sensitive information.

Course Credits for Research Participation (Max 2% of final grade)
Students in Psychology 478 are eligible to participate in Departmentally approved research and earn credits toward their final grades. **A maximum of two credits (2%) per course**, **including this course, may be applied to the student's final grade. Students earn 0.5% (0.5 credits) for each full 30 minutes of participation.** The demand for timeslots may exceed the supply in a given term. Thus, students are not guaranteed that there will be enough studies available to them to meet their credit requirements. Students should seek studies early in the term and should frequently check for open timeslots. Students can create an account and participate in Departmentally approved research studies at http://ucalgary.sona-systems.com
The last day to participate in studies and to assign or reassign earned credits to courses is **Apr 14th, 2011.**

Evacuation Assembly Point
In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at http://www.ucalgary.ca/emergencyplan/assemblypoints

Building	Primary Assembly Point	Alternate Assembly Point
Administration Building	Social Science Food Court	ICT Food Court

Student Organizations
Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 170 and may be contacted at 403-220-5567.
Student Union VP Academic: Phone: 403-220-3911 suvpaca@ucalgary.ca
Student Union Faculty Rep.: Phone: 403-220-3913 socialscirep@su.ucalgary.ca

Student Ombudsman's Office
The Office of the Student Ombudsman provides independent, impartial and confidential support for students who require assistance and advice in addressing issues and concerns related to their academic careers. The office can be reached at 403-220-6420 or ombuds@ucalgary.ca (http://www.su.ucalgary.ca/services/student-services/student-rights.html).

Safewalk

The safewalk program provides volunteers to walk students safely to their destination anywhere on campus. This service is free and available 24 hrs/day, 365 days a year.
Call 403-220-5333.

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **Jan 21st, 2011**. Last day for registration/change of registration is **Jan 24th, 2011**. The last day to withdraw from this course is **Apr 15th, 2011**.