



Department of Psychology
Psychology 478 (L01) – Behavioural Neuroscience
Fall 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:	Mon 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. There is also an online version (missing some figures).

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, Mating and Maternal Behaviour (10% of 30% of final grade) due at the beginning of your laboratory section – Monday or Friday Oct 3rd or 7th. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the instructor.

Lab/Lecture write-up #2 – Behaviour of the adult rat (10% towards 30% of final grade) due at the beginning of your laboratory section – Friday or Monday Oct 14th or 17th. 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 (10% towards 30% of final grade) due at the beginning of your laboratory section – Friday or Monday Oct 21st or 24th. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the instructor.

Student Project Proposal (5% of final grade) due Monday October 24th. The writing quality is a factor in the evaluation. This assignment is marked by the instructor. The function of this assignment is to ensure the educational and ethical merit of the proposed research.

Lab/Lecture write-up #4 – Fear, Anxiety, Depression (10% towards 30% of final grade) due at the beginning of your laboratory section – Friday or Monday Oct 28th or 31st. 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 #5 – Parkinson’s disease (10% of final grade) due at the beginning of your laboratory section – Friday or Monday Nov 18th or 21st. Use reading material from both lecture and textbook. The writing quality is a factor in the evaluation. This assignment is marked by the instructor.

Lab/Lecture write-up #6 – Learning and Memory (10% of final grade) due at the beginning of your laboratory section – Friday or Monday Dec 2nd or Dec 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.

Note that each student’s top 3 marks (out of 10% each) on Lab/Lecture write-ups #1 through #4 will be used for a total of 30% of the final grade. The lowest mark over the Lab/Lectures #1 to #4 will be dropped.

Laboratory Project write-up (25% of final grade) due Friday, Dec 9th. 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 (15% of final grade), scheduled in lecture time.

Students will give a ONE SLIDE 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), scheduled in lecture time. All students will also provide the instructor with written critical feedback on all in-class student presentations. Class participation is also considered. This assignment is marked by the TA.

Laboratory write-ups are due at the beginning of your laboratory session.

The hardcopy of all other evaluations (except the PowerPoint presentation) will be due by the time the Psychology Main Office closes (4:30). Late evaluations 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 Sep 13	Class Introduction, Instructor, Behavioural Neuroscience Lecture begins.
R Sep 15	History of the discipline, Perspectives
T Sep 20	Sexual Behaviour – sex, mating
R Sep 22	Maternal Behaviour – overview
F Sep 23	Last day to drop a course with no W grade and tuition refund.
M Sep 26	Last day for registration/change of registration.
T Sep 27	Maternal Behaviour – epigenetics
R Sep 29	Adult rat behaviour - posture, ground locomotion, swimming, grooming, nest building, dodging and robbing

T Oct 4	Skilled Behaviour - overview
R Oct 6	Skilled Behaviour – motor maps
T Oct 11	Fear, Anxiety, Depression – overview
R Oct 13	Fear, Anxiety, Depression – the tests, the problem with inferred central processes
T Oct 18	Parkinson’s Disease – overview, anatomy and pathophysiology
R Oct 20	Parkinson’s Disease – Animal models (guest lecturer Andrew Brown)
T Oct 25	Brain Stimulation – overview
R Oct 27	Brain Stimulation – Deep brain
T Nov 1	Learning and memory: Recognition
R Nov 3	Stress (guest lecturer Dr. Matthew Hill)
T Nov 8	My research program
R Nov 10	Reading Days. No lecture.
T Nov 15	Society for Neuroscience Meeting Washington DC. No lecture.
R Nov 17	Society for Neuroscience Meeting Washington DC. No lecture.
T Nov 22	Laboratory projects
R Nov 24	Laboratory projects
T Nov 29	Student Presentations (~10 minutes each)
R Dec 1	Student Presentations (~10 minutes each)
T Dec 6	Student Presentations (~10 minutes each)
R Dec 8	Lectures End
F Dec 9	Last day to participate in research and allocate research credits. Last day to withdraw.

Tentative Laboratory Schedule

Sep 5 – 9, 2011	Block Week
Week 1 – Sep 12 or 16	No Labs.
Week 2 – Sep 19 or 23	Rodent Handling and Ethics
Week 3 – Sep 26 or 30	Sexual Behaviour, Mating (ear wiggling, lordosis, mounting) and Maternal Behaviour (nursing, licking & grooming, pup retrieval)
Week 4 – Oct 3 or 7	Behaviour of Adult rats (posture, ground locomotion, swimming, grooming, nest building, dodging and robbing)
Week 5 – Oct 14 or 17	Skilled Behaviour (single pellet, pasta matrix, rung walking, sticky tape test, food handling, Rotarod)
Week 6 – Oct 21 or 24	Fear and Anxiety (open field, elevated plus maze, Porsolt swim, startle, defensive burying)
Week 7 – Oct 28 or 31	Parkinson’s Disease (cylinder)
Week 8 – Nov 4 or 7	Deep Brain stimulation (cylinder)
Week 9 – Nov 11 or 14	Reading Days AND Society for Neuroscience Meeting – No Labs.
Week 10 – Nov 18 or 21	Learning and Memory: Spatial (Morris water task), Recognition (Mumby novelty task)
Week 11 – Nov 25 or 28	Time to collect data for Lab project

Week 12 –	Time to collect data for Lab project
Fri Dec 9	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 **Dec 9th, 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 suypaca@ucalgary.ca

Student Union Faculty Rep.: Phone: 403-220-3913 socialscirep@su.ucalgary.ca

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **Sep 23rd, 2011.** Last day for registration/change of registration is **Sep 26th, 2011.** The last day to withdraw from this course is **Dec 9th, 2011.**