



Psyc 478

Behavioural Neuroscience

Fall 2013

Instructor:	Michael Antle	Lecture Location:	ST 061
Phone:	403-220-2574	Lecture Days/Time:	M,W,F 10-10:50am
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Office:	A018	Lab days/Time:	W,F 1:00pm - 3:50pm
Office Hours:	By appointment	TA:	Ryan Jeffers
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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.

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.

The laboratory component of this course involves the compassionate use of animals (rats). Most students find this hands-on learning experience valuable and exciting. This work is approved by the Life and Environmental Sciences Animal Care Committee and adheres to the guidelines laid down by the Canadian Council of Animal Care. Intentional abuse and mistreatment of animals will not be tolerated. Such abuse constitutes Academic Misconduct, and will result in a failing grade in the course. Students who are uncomfortable or nervous about handling animals should discuss their concerns with the professor or TA.

Prerequisites

Psyc 200 and 201 or Psyc 205 – Principles of Psychology I & II

Psyc 312 – Experimental Design and Quantitative Methods for Psychology

Psyc 375 – Brain and Behaviour or consent of the Department

Required Text

None, although the following texts available for free online are recommended:

1. The Behaviour of the Laboratory Rat: a handbook with tests. Edited by Ian Q. Whishaw and Bryan Kolb, Oxford University Press, 2005
 - a. <http://www.oxfordscholarship.com.ezproxy.lib.ucalgary.ca/oso/public/content/neuroscience/9780195162851/toc.html>
2. Neuroscience, 2nd edition, Edited by Dale Purves, George J Augustine, David Fitzpatrick, Lawrence C Katz, Anthony-Samuel LaMantia, James O McNamara, and S Mark Williams, Sinauer Associates, 2001
 - a. <http://www.ncbi.nlm.nih.gov/books/NBK10799/>

Evaluation

Exams

Exams will be short answer and will cover lecture and text material up to exam date. The final exam is not cumulative.

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|----|--------|------------------------------------|----------------------------------|
| 1. | Exam 1 | Monday, September 30 th | 1/6 th of final grade |
| 2. | Exam 2 | Friday, October 25 th | 1/6 th of final grade |
| 3. | Exam 3 | Scheduled by Registrar | 1/6 th of final grade |

Class assignments

1. In class presentations, November 25th to December 6th 10% of final grade
 - a. A short 8 minute presentation describing a behavioural neuroscience experiment selected and designed by the student. The presentation should be a proposal format.
 - b. Due to time constraints, missed presentations cannot be made up, and will receive 0%

Lab Assignments – Short assignments

Short (usually ~2 page) assignments based on the previous week's lab.

<u>Assignment</u>	<u>Due:</u>	<u>% of final grade</u>
Handling	In lab September 18, 20	2%
Motor behavior	In lab October 2, 4	2%
Maternal Behavior	In lab October 9, 11	2%
Drinking	In lab October 30, November 1	2%
Circadian	In lab November 20, 22	2%

Lab Assignments – Full lab assignments (~15 pages)

These assignments are to be prepared according to the style of the Journal of Neuroscience.

(http://www.jneurosci.org/site/misc/ifa_organization.xhtml). While this style stipulates word limits for the introduction and discussion, you may exceed these limits to demonstrate adequate understanding of the material.

<u>Assignment</u>	<u>Due:</u>	<u>% of final grade</u>
Pup development	In lab, October 23, 25	10%

Stroke	In lab, November 13, 15	10%
Learning	To TA or Psych office by 4pm, December 4, 6	10%

Students must achieve a passing grade on both the class and lab components to pass this course.

Department of Psychology Grade Distribution Policy

The distribution of grades in Psychology courses (the percentage of A grades, B grades, etc.) will be similar to the distribution of grades in other courses in the Faculty of Arts. The Department monitors the grade distributions of 200-, 300-, and 400-level courses in the Faculty to ensure that the grade distributions in Psychology courses are comparable. Based on these reviews, students can expect that 1) up to 30% of grades in 200- and 300-level psychology courses will be “A” grades (A+, A, and A-), and 2) up to 40% of grades 400-level psychology courses will be “A” grades.

Department of Psychology Criteria for Letter Grades

Psychology professors use the following criteria when assigning letter grades:

A+ grade: *Exceptional Performance.* An A+ grade indicates near perfect performance on multiple choice and short answer exams. For research papers/essays/course projects/presentations, an A+ grade is awarded for exceptional work deserving of special recognition and is therefore not a common grade.

A, A- Range: *Excellent Performance.* Superior understanding of course material. Written work is very strong in terms of critical and original thinking, content, organization, and the expression of ideas, and demonstrates student’s thorough knowledge of subject matter.

B Range: *Good Performance.* Above average understanding of course material. Written work shows evidence of critical thinking and attention to organization and editing but could be improved in form and/or content.

C Range: *Satisfactory Performance.* Adequate understanding of course material. Knowledge of basic concepts and terminology is demonstrated. Written work is satisfactory and meets essential requirements but could be improved significantly in form and content. Note: All prerequisites for courses offered by the Faculty of Arts must be met with a minimum grade of C-.

D range: *Marginally meets standards.* Minimal understanding of subject matter. Written work is marginally acceptable and meets basic requirements but requires substantial improvements in form and content. Student has not mastered course material at a level sufficient for advancement into more senior courses in the same or related subjects.

F grade: *Course standards not met.* Inadequate understanding of subject matter. Written work does not meet basic requirements. Student has not demonstrated knowledge of course material at a level sufficient for course credit.

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 Date (revise and add columns & rows as necessary)	
M Sep 9	Introduction	<i>Lecture begins.</i>
W Sep 11	History / Philosophy	
F Sep 13	History / Philosophy	
M Sep 16	Motor systems	
W Sep 18	Motor systems	
F Sep 20	Motor systems	<i>Last day to drop full courses (Multi-term) and Fall Term half courses. No refunds for full courses (Multi-term) or Fall Term half courses after this date.</i>
M Sep 23	Motor systems	<i>Last day to add or swap full courses (Multi-term) and Fall Term half courses. Last day for change of registration from audit to credit or credit to audit.</i>
W Sep 25	Motor systems	
F Sep 27	Motor systems	<i>Fee payment deadline for Fall Term full and half courses.</i>
M Sep 30	Exam #1	(Lectures 1-9)
W Oct 2	Sex	
F Oct 4	Sex	
M Oct 7	Sex	
W Oct 9	Maternal Behaviour	
F Oct 11	Maternal Behaviour	
M Oct 14	No lecture	<i>Thanksgiving Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>
W Oct 16	Maternal Behaviour	
F Oct 18	Feeding	
M Oct 21	Drinking	
W Oct 23	Thermoregulation	
F Oct 25	Exam # 2	(Lectures 10-18)
M Oct 28	Support systems of the brain	
W Oct 30	Blood flow and Stroke	
F Nov 1	Circadian rhythms	
M Nov 4	Circadian rhythms	
W Nov 6	Circadian rhythms	
F Nov 8	Anxiety and Fear	
Nov 9-12	No lectures	<i>Reading Days.</i>
M Nov 11	No lecture	<i>Remembrance Day (Observed). Remembrance Day (Observed).</i>

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.

Travel During Exams

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered except under exceptional circumstances. Students are advised to wait until the final examination schedule is posted before making any travel arrangements.

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 with their grades, UCIDs, or other FOIP-sensitive information.

Course Credits for Research Participation (Max 2% of final grade)

Students in most psychology courses 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 6, 2013**

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>
Please check this website and note the nearest assembly point for this course.

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 Ombuds 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 **September 20, 2013**. Last day for registration/change of registration is **September 23, 2013**. The last day to withdraw from this course is **December 6, 2013**.