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| PSYC 400.03 | Applied Methods in Brain and Behaviour | Fall 2022 |
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| Instructor: | Dr. Simon Spanswick | Lecture Location: | SA 119 |
| Phone: | 403-220.4948 | Lecture Days/Time: | M 14:00-16:45 |
| Email: | scspansw@ucalgary.ca | TA: | Linda Le |
| Office: | AD 032 | | |
| Office Hours: | Email me to arrange a convenient time | | |

Course Description

Students will learn to apply appropriate methods to answer research questions, to collect and analyze data, and to interpret and report research findings as they apply to brain and behaviour. Topics may include functional and comparative neuroanatomy, quantification of the nervous system, and behavioural analysis. We will take an interactive and experiential approach to the course content.

Course Learning Outcomes

The Department of Psychology is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes they facilitate (see <https://live-arts.ucalgary.ca/psychology/about#program-learning-outcomes>), and the expected level of achievement.

| Course Learning Outcomes | Assessment Methods | PLO(s) | Level(s) |
|--|---|------------|------------|
| Identify and explain the major research methodologies used in neuroscience, as well as their appropriate usage | Lab assignments | 1, 2, 6, 7 | A, A, C, A |
| Locate and describe the major structures of the brain as well as their function | Lab assignments | 1, 4, 7 | A, A |
| Effectively communicate research findings in the field of neuroscience | Lab assignments, team project, lab notebook | 4, 7 | A, A |
| Appropriately collect, analyze, and interpret neuroscientific data | Lab assignments | 2, 3, 7 | A, C, A |
| Work as a member of a team to successfully complete a group project relating to the field of neuroscience | Team project | 1, 4, 5 | A, A, A |

Notes. PLOs = Program-Learning Outcomes: 1 = demonstrate knowledge of psychological sciences, 2 = think critically and solve problems, 3 = conduct research and analyze data, 4 = communicate effectively, 5 = demonstrate information literacy, 6 = understand and implement ethical principles in a diverse world, 7 = apply psychological knowledge and skills, 8 = Demonstrate multicultural competence and awareness of issues related to equity, diversity,* and inclusion. Level of PLO achievement facilitated by this course: I = introductory, C = competency, A = advanced.

Acknowledgments and Respect for Diversity

Our classrooms view diversity of identity as a strength and resource. Your experiences and different perspectives are encouraged and add to a rich learning environment that fosters critical thought

through respectful discussion and inclusion. The Department of Psychology would also like to acknowledge the traditional territories of the people of the Treaty 7 region in southern Alberta. The City of Calgary is also home to Métis Nation of Alberta, Region III.

Course Format

This is an in-person class held on campus.

Prerequisites

Admission to the Psychology major or Honours program and Psychology 312 or 300 and 301, and 375.

Anti-requisites

Credit toward degree requirements will be given for only one of Psychology 400.01, 400.02, 400.03, 400.04, 400.05, 400.06, 400.07, or 400.08.

Required Text

There is no required textbook for this course.

Assessment Methods

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| Lab assignments (4 total): | 60% |
| Team Project (due Dec 5 th): | 30% |
| Lab Notebook (due Dec 9 th): | 10% |

There will be 4 lab assignments throughout the semester (worth 15% each). These will be related to the lab(s) they are assigned in and will be due the following week via Dropbox on the course D2L site by 11:59pm. Each assignment should be approximately 3-4 pages in length (not including title page or references section), and should be formatted according to APA (e.g. double-spaced, 12 point Times New Roman font with 1" margins). More details/rubrics relating to the lab exercises and the associated assignments will be available on D2L. **Without instructor approval, late assignments will be penalized 10% per day, including weekends.**

The team project (worth 30% of your final grade) will require you to put together a poster that will be presented at our Student Conference on December 5th. A digital copy of your poster is due on the same day via Dropbox by 11:59pm. Your goal is to put together an engaging poster that addresses a common question that the general public has about the brain (examples will be provided in class). Your team should take an evidence-based approach to answering the question, and provide sufficient background information regarding your topic. Class time will be provided during the semester to allow for your team to meet and plan your poster. Overall you will be assessed as a team on this project, but to ensure that all team members contribute you will be asked to provide peer ratings.

Your grade for the group project will be comprised of the grade assigned to the team as well as the evaluation provided by your peers. Additional details regarding the poster and a rubric will be posted on D2L. **Without instructor approval, late assignments will be penalized 10% per day, including weekends.**

You will be responsible for maintaining a lab notebook (worth 10% of your final grade) throughout the semester. A good lab notebook should contain a record of the procedures, observations, and the results of your work in each lab. A copy of the lab notebook is due on Dec 9th by 11:59 pm via Dropbox on the course D2L site. More details and a rubric will be provided on D2L and in class. **Without instructor approval, late assignments will be penalized 10% per day, including weekends.**

The laboratory component of this course involves the compassionate use of animal specimens (sheep and rodent brains). 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 animal specimens 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 animal brains should discuss their concerns with the professor or TA.

University of Calgary Academic Integrity Policy

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity.

Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence. It is your responsibility to ensure that you have read and are familiar with the student academic misconduct policy:

<https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Academic-Misconduct-Policy.pdf>.

Department of Psychology Criteria for Letter Grades

Psychology course instructors 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

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| 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% |

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 | Due Date |
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| W Sep 7 | <i>University Lectures begin.</i> | |
| M Sep 12 | Introduction to the course | |
| R Sep 15 | <i>Last day to drop a class without a penalty.</i> | |
| F Sep 16 | <i>Last day to add or swap a course.</i> | |
| M Sep 19 | It's a small world after all... (Research Methods) | |
| F Sep 23 | <i>Fee payment deadline for Fall Term full and half courses.</i> | Lab #1 Due |
| M Sep 26 | Comparative and Functional Anatomy (the rat brain) | |
| F Sept 30 | UNIVERSITY CLOSED National Day for Truth and Reconciliation | |
| M Oct 4 | Comparative and Functional Anatomy (the human brain) | |
| M Oct 10 | Thanksgiving Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures. | |
| M Oct 17 | Student Conference Prep Day | Lab #2 Due |
| M Oct 24 | Quantifying the Nervous System (Golgi and Sholl Analysis) | |
| M Oct 31 | Quantifying the Nervous System (An Introduction to Volumetrics) | Lab #3 Due |
| Nov 6-12 | Term Break No Classes | |
| F Nov 11 | Remembrance Day (Observed). University Closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures. | |
| M Nov 14 | Quantifying the Nervous System (Applying the Cavalieri Method) | |
| M Nov 21 | Student Conference Prep Day | Lab #4 Due |
| M Nov 28 | Assessing Behaviour | |
| M Dec 5 | Student Conference Day | Poster Due |
| W Dec 7 | <i>Fall Term Lectures End.</i> <i>Last day to withdraw with permission from Fall Term half courses.</i> | |

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| F Dec 9 | | Lab notebook due |
| Dec 10-21 | Fall Final Exam Period | |

Extra Research Participation Course Credit is Not Offered for this Course.

Absence From A Test/Exam

Makeup tests/exams are **NOT** an option without the approval of the instructor. Students who miss a test/exam have up to 48 hours to contact the instructor to ask for a makeup test/exam. It's the instructor's discretion if they will allow a make-up 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. **Once approved by the instructor a makeup test/exam must be written within 2 weeks of the missed test/exam on a day/time scheduled by the instructor. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam** <https://www.ucalgary.ca/registrar/exams/deferred-exams>.

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 by the department. Students are advised to wait until the final examination schedule is posted before making any travel arrangements. **If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam** <https://www.ucalgary.ca/registrar/exams/deferred-exams>. **Students with an exceptional extenuating circumstance (e.g., a family emergency) should contact the Department of Psychology (psyugrd@ucalgary.ca).**

Reappraisal of Graded Term Work <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

Reappraisal of Final Grade <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

Academic Accommodations

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>.

Academic Misconduct

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

Instructor Intellectual Property

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

Copyright Legislation

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy>) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

Freedom OF Information and Protection of Privacy

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary

Student Support and Resources

<https://www.ucalgary.ca/registrar/registration/course-outlines>

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund is Thursday, September 15, 2022**. Last day add/swap a course is **Friday, September 16, 2022**. The last day to withdraw from this course is **Wednesday, December 7, 2022**

<https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html#fall2017>