

PSYC/NEUR 474		Neuroscience of Learning and Memory		Fall 2020
Instructor:	Dr. Simon Spanswick	Lecture Location:	Online (Zoom, D2L)	
Phone:	403-220-4948	Lecture Days/Time:	Hybrid, M 11:00 – 11:50	
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Course Description

An examination of learning and memory from a neuroscience perspective. Molecular, cellular, systems-level, and behavioural approaches will be applied to themes such as consolidation, amnesia, and pathological processes.

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)
Describe the different memory systems in the brain	Exams, thought papers, term project	1,4,5,7	C,A,C,A
Explain the neural substrates of learning and memory	Exams, thought papers, term project	1,4,5,7	C,A,C,A
Effectively communicate research findings in the field of learning and memory	Exams, thought papers, term project	1,2,4,5,7	C,A,A,C,A
Assess the portrayal of memory pathologies in the media	Term project	1,4,5,7	C,A,C,A
Critically analyze the primary literature in the learning and memory field	Thought papers, term project	1,2,4,5,7,8	C,A,A,C,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 course will use a hybrid format. Some lectures will be taught live via Zoom during each scheduled class as marked by asterisks in the course schedule below and will be recorded and posted to D2L after class. Other class materials will be posted to the course D2L page by the day/time of each scheduled class as per the course schedule.

Prerequisites

Psychology 312 OR 300/301, and 375 as well as admission to the Psychology major or Honours program.

Required Text

There is no required textbook for this course. References to required readings from the primary literature will be provided.

Assessment Methods

Exams

Midterm #1 (Oct 14 th):	23.33%
Midterm #2 (Nov 18 th):	23.33%
Final exam (TBA):	23.33%

Exams will be short answer and cover discussion and asynchronous material in addition to any course readings up to the exam date. **The midterms and final exam will not be cumulative.** Short answer questions will be graded such that half marks will be given if it is clear you know the general answer but have omitted specific details. Full marks will be given to those that include specifics, and employ the correct terminology and concepts.

Each exam will be made available on D2L for 24 hours to access but students will have 75 minutes to complete the exam once started. Without instructor approval, exams must be completed within the time window specified.

Exams in this course are open book. For this course, an open book exam means that the use of class notes and the textbook is permitted. The use of online resources and calculators is prohibited. Students may not communicate with others about course material or the exam either in person or electronically during exams.

Written Assignments

Thought Papers (3 total) 20%

There will be three thought papers due throughout the semester, worth a total of 20% of your final grade. Thought papers should be written in 12-point font with 1-inch margins, and will require a maximum of 3 double-spaced pages (not including references or title page). Exact due dates/times are listed in the schedule component of the outline as well as on D2L. Each paper will require you to reflect on a topic related to learning and memory, and provide you with an opportunity to relate the material we have discussed to real-world issues. Papers will be graded according to the analysis/insight into the topic in question, as well as the strength of writing (organization, etc.) and mechanics of the paper. More details regarding the thought papers can be found on D2L. All papers for this course should be submitted via Dropbox. Late assignments will not be accepted without instructor approval.

Participation

Discussion Forum (ongoing) 10%

Active participation can often make the difference between a mediocre and a great course experience. My goal is to create an online community that is a safe place to formulate, express, and discuss a wide variety of ideas. Your thoughts and questions can often provide a great starting point for a fruitful discussion, as well as clarity regarding difficult concepts. The available evidence shows that student understanding is enhanced through discussion. With this in mind, students are expected to contribute to our online community in a respectful and thoughtful manner. Your participation grade will reflect your online engagement with the course material. Importantly, this includes contributing to discussions, actively posting material, and participating in discourse throughout the semester. More details regarding the grade breakdown will be discussed in class and provided on D2L.

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/policies/files/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

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	Activity/Due Date	Topic
W Sep 9	<i>University Lectures begin.</i> * Introduction to the course (Zoom meeting)	Course Introduction
F Sep 11		Defining Memory
M Sep 14	* Discussion 2 (Zoom meeting)	
W Sep 16		
R Sep 17	<i>Last day to drop a class without a penalty</i>	
F Sep 18	<i>Last day to add or swap a course</i>	
M Sep 21	* Discussion 3 (Zoom meeting)	
W Sep 23		
F Sep 25	<i>Fee payment deadline for Fall Term full and half courses.</i>	
M Sep 28	* Discussion 4 (Zoom meeting)	

W Sep 30		Multiple Memory Systems in the Brain
F Oct 2		
M Oct 5	* Discussion 5 (Zoom meeting)	
W Oct 7	Thought paper #1 due by 11:59 pm.	
F Oct 9		Episodic Memory
M Oct 12	Thanksgiving Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.	
W Oct 14	Midterm #1 (Discussions 1-5, reading material, asynchronous material)	
F Oct 16		Episodic Memory
M Oct 19	* Discussion 6 (Zoom meeting)	
W Oct 21		
F Oct 23		
M Oct 26	* Discussion 7 (Zoom meeting)	In search of the engram
W Oct 28		
F Oct 30		
M Nov 2	* Discussion 8 (Zoom meeting)	
W Nov 4		
F Nov 6	Thought paper #2 due by 11:59 pm.	
Nov 8-14	Term Break No Classes	
W Nov 11	Remembrance Day (Observed). University Closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.	
M Nov 16	* Discussion 9 (Zoom meeting)	Modulating memory systems
W Nov 18	Midterm #2 (Discussions 6-9, reading material, asynchronous material)	
F Nov 20		Modulating memory systems
M Nov 23	* Discussion 10 (Zoom meeting)	
W Nov 25		
F Nov 27		Fear Memory
M Nov 30	* Discussion 11 (Zoom meeting)	
W Dec 2		
F Dec 4		
M Dec 7	* Discussion 12 (Zoom meeting)	Actions and Habits
W Dec 9	Fall Term Lectures End. Last day to withdraw with permission from Fall Term half courses. Thought paper #3 due by 11:59 pm.	
Dec 12-23	Fall Final Exam Period (Discussions 10-12, reading material, asynchronous material)	

Course Credits for Research Participation

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 <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>.

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 (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) 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 17, 2020**. Last day add/swap a course is **Friday, September 18, 2020**. The last day to withdraw from this course is **Wednesday, December 9, 2020**.

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