



UNIVERSITY OF ALBERTA
DEPARTMENT OF PSYCHOLOGY

Learning and Comparative Cognition PSYCO 485, B1 Winter 2021

Instructor: Dr. Kimberley Campbell

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(please put **PSYCO 485 B1** in the subject line to ensure that I see and respond to your email). Also, see “Email Policy” on eClass regarding who to email

Web Page: can be accessed on eClass

Office Hours: Mondays after class or by appointment

Lecture Time: Mondays 9 – 11:50 am (see **Course Format** below for details about lectures)

Teaching Assistant:

Andres Camacho – camacho2@ualberta.ca

Course Format:

- **Lectures:** Lectures will be held live on Zoom. The link to our Zoom classroom can be found on eClass in the “Zoom Meetings” section.
- **Office Hours:** Following our weekly class (Mondays from 9 – 11:50 am), I will remain on Zoom for at least 10 minutes to give students a chance to stick around and ask questions if they have any. If there are lots of questions or if we get a good discussion going, office hours may run for as long as an hour after class. Attending office hours is entirely voluntary and does not count as participation.
- **Evaluations:** All forms of evaluation (i.e., tests, assignments, etc.) will be completed online. See **Format of Evaluative Materials** below for additional details.

Course Description: A theoretical analysis of topics such as Pavlovian conditioning, instrumental learning, working memory, timing, concept learning, and order and numerical competence. Also discussed will be the purposes and nature of theories and the historical development of theory in learning and comparative cognition. [Faculty of Science]

Course Prerequisites: PSYCO 381.

Technology Requirements/Recommendations for Remote Learning:

For an optimal online learning experience, please review the University guidelines for [Technology for Remote Learning](#). If a student has any questions or concerns about these

requirements/recommendations, it is highly recommended that they contact the instructor before the Add/Drop Deadline has passed.

Course Objectives and Expected Learning Outcomes: The objectives of this course are to: 1) expand your understanding of issues, ideas, and approaches to the comparative investigation of learning and cognition as well as to expand your knowledge of the recent advances in the field, 2) provide guided experience in gathering, evaluating, integrating and applying knowledge on learning and comparative cognition, and 3) provide experience and the opportunity to develop skills in evaluating and critically thinking about research, organizing and integrating research findings, and communicating information and ideas both orally and in writing.

This course is not designed to provide a comprehensive survey of research and theory in learning and comparative cognition. Instead, this 400-level course is designed to provide an opportunity to study and have in-depth discussions about selected topics, issues and ideas in the field.

Required Textbook:

None. Articles will be made available on eClass as weekly readings.

Important Dates:

Add/Drop Deadline: January 25th, 2021

50% Refund Deadline: February 10th, 2021

Final Withdrawal Date (Grade of W): April 9th, 2021

Lecture Schedule:

Note: This outline is meant to serve as a guideline and may change as the course progresses

Week	Dates	Topic	Notes
1	January 11	Introduction	
2	January 18	Classical (Pavlovian) Conditioning	
3	January 25	Instrumental (Operant) Conditioning and Social Learning*	
4	February 1	Exam 1	
5	February 8	Dog Cognition, Memory and Episodic/Planning*	
6	<i>February 15 - 19</i>	<i>Winter Term Reading Week - No Classes</i>	
7	February 22	Tool Use*	
8	March 1	Timing and Numerosity*	
9	March 8	Exam 2	
10	March 15	Decision Making*	
11	March 22	Spatial Learning and Navigation*	
12	March 29	Animal Communication*	Course Paper Due March 28 th at 11:59 pm (MST)
13	<i>April 5</i>	<i>Easter Monday - University Closed</i>	
14	April 12	Exam 3	

*Possible **Oral Presentation** dates

Grade Evaluation:

This course will **NOT** be curved. Final grades will be calculated from Assessment scores (see **Assessments** table below) and converted to letter grades according to this distribution:

Distribution of Grades												
Letter grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	F
% Range	≥95	90-94	85-89	80-84	75-79	71-74	67-70	63-66	60-62	55-59	50-54	<50
Grade points	4.0	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0
Descriptor	Excellent			Good			Satisfactory			Poor	Minimal Pass	Fail

This table contains an approximate guideline for the course, however the instructor reserves the right to adjust this table to correspond to University-suggested ranges and assign appropriate grades based on relative performance.

Grades are unofficial until approved by the Department and/or Faculty offering the course.

Assessments	Weighting	Date
Participation Grade	15%	Throughout
Oral Presentation (Individual)	15%	TBD*
Course Paper (Individual)	20%	March 28
Exam 1	15%	February 1
Exam 2	15%	March 8

*See “**Student Presentations**” section on eClass for individual presentation dates

Format of Evaluative Materials:

Participation Grade (15%)

This course centers around discussion and interaction. Though attendance is not strictly mandatory, students will earn marks for attending weekly classes and participating in discussions. There are three (3) main ways to earn participation marks:

1. **Contribution to in-class discussion:** for each class that you attend and are seen to participate *meaningfully* in the discussion (e.g., adding to the discussion, rather than simply agreeing or disagreeing with a statement), you will earn participation marks (max = 7 out of 8 possible classes). In general, be prepared, come to class, and participate!
2. **Submitting a thought question:** for each class that you submit at least one question relating to the week’s readings, you will earn participation marks (max = 7 out of 8 possible classes). These thought questions must be emailed to the instructor by 11:59 pm (MST) on the Sunday before a class to be considered. A good question/idea will show thoughtful engagement with the assigned readings and be directed at eliciting discussion.
3. **Submission of feedback on oral presentations:** for each class that you submit *constructive* feedback on the week’s oral presentations, you will earn participation marks (max = 6 out of 7 possible classes). This feedback must be emailed to the instructor by 11:59 pm (MST) on the date of the presentation to be considered. These comments may be included anonymously in the feedback comments provided to the presenter(s). The comments may pertain to the content or delivery of the presentation and can include what you liked about the presentation or suggestions for improvement.

You may notice that there is one day of “wiggle room” for each category (e.g., 6 out of 7 student presentation classes, or 7 out of 8 lecture classes). This is to allow students the opportunity to miss any one (non-exam) class this semester with no penalty. You are still responsible for the material covered in all classes, but you won’t miss out on grades if you have to miss a class due to illness, technological issue, or personal reason.

Oral Presentation (Individual) (15%)

Once during the term you will present a scientific article from a list of available articles. You may also choose your own article that fits within the given list of topics (subject to instructor approval). The presentation date will be tied to the article you select (see “**Student Presentations**” section on eClass for list of articles and associated dates).

Articles will be made available on eClass on Monday, January 11th at 12 pm (MST) and selection will be on a first come/first serve basis. Article selection must be completed by **January 25th**. *Note – If you choose an article from the Instrumental Conditioning list (January 25th), the PowerPoint is still due the preceding Friday at 5pm. Prepare early.

You will present the article individually. Your goal will be to present the key features of the article to the class, by telling us: 1) why the research was done (i.e., what question(s) is it designed to answer/how is it trying to add to the literature), 2) how the study was done (general aspects of the methodology), 3) what was found, 4) how the results were

interpreted and what the relevance or implications of the results are (how do they answer the question or add to knowledge/what do we know now that we didn't know before), and 5) your thoughts on the article (this is where you have flexibility – what you think was good or bad about it, what questions did it raise for you, what ideas did it give you, how does it relate to any of the issues we talked about or that you have learned in other classes or read about elsewhere, etc.). Importantly, a good presentation will foster class discussion, by (for example) suggesting provocative questions or unresolved issues. You will also be requested to generate 2 questions that would be suitable for inclusion as short-answer questions on an exam.

Your PowerPoint slides for the class, and your questions, must be emailed to the instructors for posting by **Friday at 5pm** prior to the Monday class of your presentation. Start early in preparing your presentation so that you don't miss this deadline! 1 percentage point (out of the 15 total) will be subtracted if you miss this deadline and an additional 1 point per 12 hr period subtracted after that. You should spend the weekend before your presentation practicing your talk not completing the PowerPoint.

Course Paper (20%)

Your course paper must be typewritten and double spaced, with 1 inch margins, and Times New Roman size 12 font. It must include a title page and a reference page and each page must be numbered. Your paper must follow APA formatting, especially in citations and references. Grading will be based on style, informativeness, and insight. The page limit for your paper is 8 pages, excluding the title page and reference pages, or any tables, diagrams or figures. You have a choice of two formats:

Paper Format A (Research Proposal): Find five empirical articles on comparative cognition research on one of the topics included in this class. Although studies on humans may be included, the focus of your paper should be on a topic that is central to comparative cognition and at least 3 of the articles must be on non-humans. In addition, the articles must come from a peer-reviewed scientific journal and at least one of them must be recent (published in 2015 or later). Using these articles, you should generate a question that can be addressed in future research and design an experiment to address this question. In your paper, very briefly summarize the past work as it pertains to the question you will address, outline your question and the rationale for your experiment, and then describe the general methods you will use to address the question. End your paper with a brief discussion of the results you expect to obtain, how they will address the question, and how they will add to the literature.

Paper Format B (Science Communication): Find a recent (2017 or later) story in the popular press (news article, popular magazine, YouTube video, etc.) that reports or suggests an interesting or impressive behavior or cognitive ability in an animal. Based on issues and ideas discussed in class or in readings for this course, suggest two possible interpretations of the behavior or ability. Write a paper in which you introduce the general topic, describe the article or video reported, and how you might explain the behavior in terms of these possibilities. You must back up your explanations with at least 5 citations to the scientific literature. End your paper with a discussion of which interpretation you favor and why, or what evidence or experiment would be needed to help differentiate between the interpretations. **Note:** It is strongly recommended that you

show your selected article or video to Dr. Campbell as early as possible to confirm that it is appropriate for this assignment.

You are encouraged to hand in a preliminary outline of your paper and references for feedback on appropriateness. To receive feedback, you must email this to the Dr. Campbell as soon as possible and no later than March 1. For both formats the outline should include your tentative title page and at least four of your references. These should be presented in APA format so that you can receive feedback on any formatting errors you are making. For Format A you should also briefly outline your proposed experiment, and for Format B a brief outline of your two interpretations. For both formats you are also encouraged to include a draft of a paragraph so that you can receive feedback on writing style, clarity and APA citation style to help you with the actual assignment.

NOTE: For either assignment you may include articles covered in this course but at least 3 of your citations must be to articles not on the course reading list.

The final paper is due on **Sunday, March 28th at 11:59pm (MST)**. Deduction for late term papers is 1/20 per 24-hour period (weekends and holidays included) for the first two days and an additional deduction of 2/20 for each additional 24 hour period the paper is late. Papers must be submitted in PDF format through the eClass "Course Paper" submission portal. Make sure that you submit early to avoid any deductions associated with late submissions due to difficulties.

Exams 1 and 2 (15% each) and Exam 3 (20%)

All exams will be written exams and will include a mixture of short answer questions (may include definitions or fill in the blanks) and longer answer questions. A sample exam to illustrate the format will be provided on eClass. All exams will be held during the first 60 min (Exams 1 and 2) or 90 min (Exam 3) of the class. Each exam will cover material from the readings and in class discussions up to the exam. The last exam may also include integrative questions that could be answered on the basis of material from earlier weeks.

For excused absence from either of the first two exams, the weight of the missed midterm will be transferred to the final exam. Students who have missed an exam will be required to write a longer final exam (2 hrs rather than 90 minutes) that will include additional questions from the first half of the term. To apply for a deferral, students must contact the instructor by email as soon as possible after missing the exam. If Exam 3 is missed and an excused absence is granted, the student may write a deferred exam on Monday, May 3rd at 9:00am.

Missed Assessments:

For an excused absence where the cause is religious belief, a student must contact the instructor(s) within two weeks of the start of Fall or Winter classes to request accommodation for the term (including the final exam, where relevant). Instructors may request adequate documentation to substantiate the student request.

A student who cannot write a term examination or complete a term assignment due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for a deferral of the weight of the missed exam to the final exam or an extension of the

quiz/assignment deadline. You must contact the instructor **within 24 hours** of the assessment deadline to apply for the deferral. In all cases, instructors may request adequate documentation to substantiate the reason for the absence at their discretion.

Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted. Misrepresentation of Facts to gain a deferral is a serious breach of the *Code of Student Behaviour*.

Deferred Final Examination:

A student who cannot write the final examination due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for a deferred final examination. Students who failed at the start of term to request exam accommodations for religious beliefs are expected to follow the normal deferred final examination process. Such an application must be made to the student's Faculty office within two working days of the missed examination and must be supported by appropriate documentation or a Statutory Declaration (see Calendar for information on [Attendance](#)). Deferred examinations are a privilege and not a right; there is no guarantee that a deferred examination will be granted. Misrepresentation of Facts to gain a deferred examination is a serious breach of the *Code of Student Behaviour*.

Recordings of Synchronous Activities:

Please note that class times for this course will be recorded. Recordings of this course will be used for the purposes of determining student participation and grading of presentations. These recordings will be disclosed to the Teaching Assistant and those students enrolled in this section of the class that require audio recordings of lectures as part of their AR Accommodations.

Students have the right to not participate in the recording and are advised to turn off their cameras and audio prior to recording; they can still participate through text-based chat. It is recommended that students remove all identifiable and personal belongings from the space in which they will be participating.

Please direct any questions about this collection to the instructor of this course.

STUDENT RESPONSIBILITIES:

Guidelines for Respectful Online Engagement: Students from many different backgrounds participate in courses at the University of Alberta. Sexist, racist, homophobic comments and other inflammatory remarks are not conducive to learning in our courses, and absolutely are not permitted. All participants are governed by the Code of Student Behaviour. Be mindful when discussions involve controversial topics or issues, and consider the possibility that members of our community have themselves experienced some of these issues and/or very different realities because of these issues. Participate in a respectful and considered manner.

If you are witness to or the target of abusive or offensive behaviour in any course, please inform your instructor immediately. You may also contact the Psychology Undergraduate/Graduate Advisor, Associate Chair of Undergraduate/Graduate, or Chair.

Academic Integrity: The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the [Code of Student Behaviour](#) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should consult the [Academic Integrity website](#) for clarification on the various offences. If you have any questions, ask your instructor.

All forms of dishonesty are unacceptable at the University. Any offence will be reported to the Associate Dean of the Faculty, who will determine the disciplinary action to be taken. See the [Academic Discipline Process](#). Sanctions range from a grade of zero for an exam or paper in question, with no opportunity to replace the grade or redistribute the weights, to a disciplinary failing grade with a period of suspension or expulsion from the University of Alberta.

Exams: Exams must be completed independently. Any written responses need to be in the student's own words. Copying of another's wording (e.g., copying a fellow classmate or verbatim using a definition from another site) violates the [Code of Student Behaviour](#) and will result in a grade of zero for an exam or paper in question, or worse. See Calendar information on [Conduct of Exams](#) for more information.

Recording and/or Distribution of Course Materials: Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

STUDENT RESOURCES:

COVID-19 Updates: Updates pertaining to university-related activities can be found on the [COVID-19 Information website](#).

Student Services and Resources: General information about various services, including academic, financial, health, safety, and career development, can be found on the website for [Current Students](#).

Accessibility Resources (AR) (1 – 80 SUB): The University of Alberta is committed to creating work and learning communities that inspire and enable all people to reach their full potential. AR promotes an accessible, inclusive, and universally designed environment. For general information to register for services visit the [Accessibility Resources](#) webpage. Eligible students have both rights and responsibilities with regard to accessibility-related accommodations. Consequently, scheduling exam accommodations

in accordance with AR deadlines and procedures is essential. Please note adherence to procedures and deadlines is required for U of A to provide accommodations.

Academic Success Centre (1-80 SUB): [The Academic Success Centre](#) provides professional academic support to help students strengthen their academic skills and achieve their academic goals. Individual advising, appointments, and group workshops are available year round in the areas of Accessibility, Communication, Learning, and Writing Resources. Modest fees apply for some services.

The Centre for Writers (1-42 Assiniboia Hall): The [Centre for Writers](#) offers free one-on-one writing support to students, faculty, and staff. Students can request consultation for a writing project at any stage of development. Instructors can request class visits and presentations.

First Peoples' House: [The First Peoples' House](#) provides an environment of empowerment for First Nations, Métis, and Inuit learners to achieve personal and academic growth.

Health and Wellness Support: There are many health and community services available to current students. For more information visit the [Health and Wellness Support](#) webpage.

Office of the Student Ombuds: The [Office of the Student Ombuds](#) offers confidential interviews, advice and support to students facing academic, discipline, interpersonal and financial difficulties.

LEARNING AND WORKING ENVIRONMENT

The Department of Psychology, Faculty of Arts, and Faculty of Science are committed to ensuring that all students, faculty, and staff are able to work and study in an environment that is safe and free from discrimination and harassment. It does not tolerate behaviour that undermines that environment. This includes virtual environments and platforms.

The University of Alberta acknowledges that we are located on Treaty 6 territory, and respects the histories, languages, and cultures of the First Nations, Métis, Inuit, and all First Peoples of Canada, whose presence continues to enrich our vibrant community.

Policy about course outlines can be found in the [Evaluation Procedures and Grading System](#) section of the University Calendar.

Disclaimer: Any typographical errors in this syllabus are subject to change and will be announced in class and/or posted on the course website (e.g., eClass). The date of the final examination is set by the Registrar and takes precedence over the final examination date reported in this syllabus.

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