



PSY 362H1 F – Animal Cognition

Thursday 2-5 pm Gerald Larkin Building Room 341

Contact Information

<p>Instructor: Kaori Takehara-Nishiuchi, Ph. D. Professor</p>	<p>Teaching Assistant(s): Ruth Tran</p>
<p>Virtual Office Hours: Appointment only</p>	<p>Office Hours: NA</p>

Course Description, Goals, and Prerequisites

This course is an introduction to the study of the cognitive capacity of animals other than humans. Topics include perception, memory, number concepts, spatial navigation, social communication, and tool use. By the end of this course, I hope you will acquire a theoretical and experimental framework for understanding and evaluating research on various cognitive processes using animal models.

Note about prerequisites: It is your responsibility to ensure that you have met *all* prerequisites listed in the Psychology section of the A&S Calendar for this course. If you lack any prerequisites, you WILL BE REMOVED. No waivers will be granted.

Reading Material/Textbook(s)

Textbook: Cognition, Evolution, and Behavior, Second Edition by Sara Shettleworth (2010)
Oxford University Press

Course Delivery

Lectures: Lectures will be delivered in person as far as the University allows in-person gatherings. The lectures will not be recorded or live-streamed.

Office hours: To have maximum flexibility for students, I will hold office hours virtually via Zoom by appointment only. Please contact me via Quercus email to book an appointment.

Course Evaluation/Marking Scheme

All assessments will be conducted online. Your final grade will be assessed as follows.

Term tests	October 13th: Test 1 (25%) December 1st: Test 2 (25%)
Written assignments	October 27th: Literature review (25%) November 17th: Research proposal (25%)

Details on Assignments

Tests: The test will be conducted online on Quercus. Two term-tests will ask questions on topics covered during the lecture. The grade will be posted in Quercus within two weeks of the test. TA will hold virtual test review sessions for viewing the marked tests within a week after the grade has been posted. Any questions about the grading should be asked by sending an email via Quercus within two weeks from the date you received the grade. In the email, please specify which questions you are concerned about and why. If your concerns are valid, I will schedule an individual virtual meeting to re-evaluate your answers to the questions. Note that the re-evaluation may lower your mark.

Written assignments: This assignment consists of two parts, Literature review and Research proposal. It provides you with an opportunity to conduct independent research on one of the major topics in animal cognition research.

In the research field of animal cognition/comparative psychology, three topics shown below are still under intense debate.

- A. Do animals other than humans have episodic memory?
- B. Do animals other than humans have a theory of mind?
- C. Do animals other than humans have a cognitive map?

Part 1: Literature review: due at noon (EST) on October 27th

You need to summarize existing research findings on one of the above-listed questions. The summary should be organized in the following format:

- 1) Introduction (1 page)
Explain the cognitive process in question (e.g., what is episodic memory/theory of mind/cognitive map?).
- 2) Your answer to the question (one sentence)
Decide whether your answer to the question is yes or no.

3) Justification of your answer (5 pages)

By using PubMed (<http://www.ncbi.nlm.nih.gov/pubmed>) and APA PsychNet (<http://www.apa.org/pubs/databases/psycnet/>), find five primary research articles that support your answer. You need to find papers that are not introduced during the lecture. You, then, need to summarize each paper roughly in one page per paper.

Part 2: Research proposal: due at noon (EST) on November 17th

No research article can answer all questions and provide perfect evidence for the hypothesis. Always several points are left for future investigations. As a sequel to the literature review, you need to propose an experiment to address one of these remaining questions.

The first step is to identify a remaining question in one of the five papers that you summarized for the literature review. Then, by modifying the design of the experiments in the paper, you will propose a new experiment to address the remaining question. The research proposal should be organized in the following format:

1) Introduction (~2 pages)

Explain what the paper showed and what it did not show. End with a clear statement showing the remaining question that your experiments are going to address.

2) Methods (~2-3 pages)

Explain detailed procedures of the proposed experiments, including participants/subjects, behavioural paradigms, control and experimental groups, and outcome measures. Clearly indicate which parts were modified from the original design and why.

3) Results (~2-3 pages)

Describes what kind of results you are expecting to observe. You are encouraged to include figures that depict the expected results.

4) Discussion (~1 page)

Briefly interpret the expected results and discuss their meaning for the original question.

The proposal will be evaluated based on the following criteria:

- 1) Importance of the main hypothesis --- The introduction summarizes sufficient background information to demonstrate why the remaining question that you chose is important.
- 2) Effectiveness of the experiment(s) --- Sufficient justifications are provided to evaluate whether the proposed experiment is the best way to address the hypothesis.
- 3) Logic of expected outcome --- Expected results are logical and are thoroughly explained.
- 4) Novelty of research --- No previous publication uses the same methodologies and approaches to addressing the main hypothesis.

Your papers should be total 7-10 pages (double-spaced pages, not including references) with the list of references in APA format. Please use 12-point font and 1-inch margins. Include a cover page with your name, **student number**, and the title of your report. The paper needs to be submitted to Quercus before the deadline.

Course Webpage/Blackboard

The website associated with this course is accessible via <https://q.utoronto.ca/>

Policies

Contact: You can ask questions during and after lectures, post them on Discussion Board, or email them to me via Quercus. If you need to discuss any other issues and concerns, please make an appointment for an individual virtual meeting by sending an email via Quercus. I will try my best to reply to emails within three business days.

Etiquette: Please respect other students and the instructor by refraining from using cell phones or chatting in the classroom.

Attendance: I expect that students attend every class. Lectures will cover the assigned chapters in the textbook; however, they will also contain additional materials that will deepen your understanding. Term tests will include questions on anything mentioned during the lectures (regardless of whether it is from the textbook or not). Lecture slides will be posted on the day of class.

Missed Assessments and Tests: You will lose all of the marks that are assigned to the assignment if you miss it. If you have legitimate excuses, such as documented family emergency and illness, please declare your absence on ACORN within one week from the missed assignment. You also need to send me an email specifying the period of your absence. The missed assignment will be removed from the calculation of the final mark. There will be no make-up assessment or test.

Penalties for Lateness: The request for the deadline extension for the written assignments should be accompanied by legitimate excuses and must be submitted by three business days before the actual deadline. The penalty for late submission without a pre-approved extension is a reduction by 10% of the maximum mark applicable for each assignment for each business day that the assignment is late. Therefore, an assignment submitted more than ten business days after the deadline will have a mark of zero recorded for that assignment.

Copyright: The materials provided in this course are for the use of the students enrolled in the course. Any course materials should not be shared, distributed, or sold in print—or digitally—outside the course without permission.

Academic Resources

Accessibility Needs: Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or Accessibility Services at (416) 978 8060; accessibility.utoronto.ca.

Writing: As a student here at the University of Toronto, you are expected to write well. The university provides its students with a number of resources to help them achieve this. For more information on campus writing centres and writing courses, please visit <http://www.writing.utoronto.ca/>.

Academic Integrity and Plagiarism: Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters

(www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offenses.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see www.utoronto.ca/academicintegrity/resourcesforstudents.html).

Other Resources

Student Life Programs and Services (<http://www.studentlife.utoronto.ca/>) Academic Success Services (<http://www.asc.utoronto.ca/>)

Counselling and Psychological Services (<http://www.caps.utoronto.ca/main.htm>)

Course Outline/Schedule

Date	Topic	Textbook
September 8th	Overview of the course, Primer	Chapter 1
September 15th	Perception, Attention, and Discrimination	Chapter 3, 6
September 22nd	Learning and memory 1	Chapter 4, 5, 7
September 29th	Learning and memory 2	Chapter 4, 5, 7
October 6th	Spatial cognition	Chapter 8
October 13th	Term Test 1	
October 20th	Timing and numerical competence, Decision making 1	Chapter 9-11
October 27 th	Decision making ² , planning, tool-use <i>Literature review due</i>	Chapter 11
November 3rd	Social intelligence	Chapter 12
November 10th	Reading week (no class)	
November 17th	Social learning <i>Research proposal due</i>	Chapter 13
November 24th	Communication and language	Chapter 14
December 1st	Term Test 2	