

Anthropology 425 (Winter 2020)

Primate Cognition

Time: Mondays 6 - 8:45pm
 Instructor: Dr. Hugh Notman
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Prerequisite(s): Anthropology 311.

Readings: Text: Sara J. Shettleworth: "Cognition, Evolution and Behavior", 2nd edition (2010). Oxford University Press.

In addition to this text, you will be required to read journal articles relevant to the topic or theme being addressed on a given week. These journal articles are a mix of empirical (experimental) papers as well as review/theoretical essays. They include many original papers that offer theoretical foundations, as well as more recent review papers. This is why many of the papers appear 'older'; it is important that you understand the pioneering work upon which more recent studies have been built. All (or most) readings will be provided to you via your D2L portal, or you can access them using the UofC online journal library.

It should be noted that *this course requires substantial weekly readings and class attendance*. You must stay on schedule with the readings and be familiar enough with the material to make informed comments, when appropriate, and/or to ask questions.

Aims

- 1 To introduce students to primary research and theoretical discussions on topics related to the mechanisms and function of primate cognition
- 2 To enhance scientific literacy as it pertains to evaluating empirical methods and interpretation
- 3 To develop critical evaluation skills as they relate to assessing research papers and the current state of primate cognition research in general

Learning Outcomes

On successful completion of this course, students should be able to:

- 1 Demonstrate an understanding of the evidence as it pertains to specific domains of primate cognition. .
- 2 Critically evaluate primary research articles related to this and other scientific disciplines
- 3 Evaluate the strengths and weaknesses of particular theoretical views.
- 4 Demonstrate familiarity with both foundational and current research papers, and integrate knowledge from these different approaches and studies into an integrated argument as it pertains to a particular topic in animal cognition.

Empirical Paper Report

This assignment is designed to introduce you to reading and critically evaluating empirical research papers that are typical of the behavioural sciences. The selection of research articles provided for this assignment are all relevant to one or more topics addressed in this course. Look through the selection of papers below and decide which one is of most interest to you.

Your assignment is to write a report on **one (1) original** research paper from the set of seven options provided below. In your report, **which is to be no more than 4 typed (double-spaced, 12 pt font) pages**, you are expected to demonstrate an understanding of the following:

1. the **theoretical framework** within which the research goal is articulated;
2. the **hypotheses** that the researchers are testing, and why, given the current state of knowledge, these hypotheses are the ones being tested;
3. the **predictions** stemming from those hypotheses;
4. the **methodological approaches** the researchers use, including a brief description of experimental design and protocol (if applicable), data collection and sampling methods, study subjects, study site (if applicable), and statistical methodology; and
5. the **interpretations and conclusions** of the data presented by the authors and their relevance to the initial hypotheses and theoretical framework.

You are *not* expected to provide exhaustive details about the sampling and statistical methodology used in the paper, as no prior experience in these areas is assumed. However, a brief description of the methods that indicates sample size and experimental protocol (with rationale) is required. You are also *not* required to state numerical values presented in the results section of the research article, such as P values (indicating statistical significance); however, you should state which test results were significant and which were not inasmuch as these are relevant to the overall goals of the study.

To summarize, your report should at minimum include the following:

1. A **rationale** for what the authors of the research are attempting to test or study, and why. In other words, what have the authors identified as the larger theoretical question(s) that require an experimental test to fill the current gap in knowledge?
2. **Hypotheses:** Hypotheses are possible answers to the research question of interest. For example, if the “question” is how chimpanzees navigate a competitive situation with a conspecific for food, hypotheses might include a) that they are using a form of theory of mind, and/or b) that they have learned to anticipate the behaviour of the conspecific through repeated interactions with that individual. Hypotheses need not be mutually exclusive.
3. **Predictions:** Predictions are “if/then” propositions that are generated by each hypothesis. Using the example of the hypotheses above, *if* chimpanzees are using a theory of mind, *then* we would expect to observe X in the experiment. If they are using some other mechanism, such as associative learning, then we would expect to observe Y.
4. **Methodology:** Here you are required to provide a brief description of how each hypothesis is being tested. Do not get too bogged down in intricate details of the experiment, but you should at the very least explain who/what the experimental subjects are (e.g., the species, how many subjects were used in the study, whether they were captive or wild), what kind of experiment is being used (i.e., what the animal subjects had to “do” to complete the experiment), and what the variables are being tested. Examples of variables could include direction of visual gaze as measure of attention, length of gaze toward a stimulus as measure of interest, or kin recognition as assessed by correct matching-to-samples. It is sufficient that you name the statistical test(s) used in the analyses; there is no need to evaluate them.
Note: DO NOT cut and paste any images or pictures from the articles into your report by way of an explanation of experimental design. You must describe and explain this in your own words.
5. **Results and Discussion:** Here you are to report what the study found. Again, in reporting results, you are not required to provide actual values or alpha values of statistical significance, but you should state *which* tests were significant, and which were not, and how these support, or do not support, the predictions stemming from each hypothesis. In the discussion section of the paper, the authors provide their interpretations of their study within the larger context of the rationale laid out in the introduction. You should provide a summary of these, as well as suggested areas for future research.
6. **A brief paragraph** in which you provide your own evaluation of the experiment. Was the experiment persuasive in demonstrating what it was meant to demonstrate? What were its shortcomings? Did the researchers have an adequate sample size to make species-wide generalizations? Did the research generate more questions than it did answer them? Be sure to be specific in your statements.

Browse each of the seven7 research articles below (available in D2L and the UofC journal library). Choose 1 (one) of the articles for your report.

Amici, F., Aureli, F., Visalberghi, E., & Call, J. (2009). Spider monkeys (*Ateles geoffroyi*) and capuchin monkeys (*Cebus apella*) follow gaze around barriers: Evidence for perspective taking?. *Journal of Comparative Psychology*, 123(4), 368–374.

Cheney, D., & Seyfarth, R. (1990). Attending to behaviour versus attending to knowledge: Examining monkeys' attribution of mental states. *Animal Behaviour*, 40(4), 742–753.

Visalberghi, E., & Limongelli, L. (1994). Lack of comprehension of cause effect relations in tool-using capuchin monkeys (*Cebus apella*). *Journal of Comparative Psychology*, 108(1), 15–22.

Greenberg, J. R., Hamann, K., Warneken, F., & Tomasello, M. (2010). Chimpanzee helping in collaborative and noncollaborative contexts. *Animal Behaviour*, 80(5), 873–880.

Kano F, Hirata S, Call J. 2015. Social attention in the two species of Pan: bonobos make more eye contact than chimpanzees. Plos ONE 10:e0129684.

Genty, E., & Roeder, J. J. (2006). Can lemurs learn to deceive? A study in the black lemur (*Eulemur macaco*). *Journal of Experimental Psychology: Animal Behavior Processes*, 32(2), 196–200.

Liszkowski, U., Schäfer, M., Carpenter, M., & Tomasello, M. (2009). Prelinguistic infants, but not chimpanzees, communicate about absent entities. *Psychological Science*, 20(5), 654–660.

Evaluation

You will also be evaluated on a midterm exam and a final exam. The final will **not** be cumulative.

Midterm exam(Monday Feb. 10)	30%
Paper Report (due March 2)	35%
Final Exam (registrar scheduled)	35%

Classroom Expectations/Regulations

- Try to arrive on time to prevent disruption to the class. If you are late please take a seat at the back of the room to minimize disruption. Likewise please stay seated until class is concluded. We will not run overtime.
- **Do not converse with classmates during lectures.** This is unfair to students sitting nearby who may miss lecture material that will subsequently appear on exams. If you are discussing lecture

material please raise your hand to share the comment or question as that will benefit the whole class. Relevant interruptions are welcome. You may also email questions which will be answered in the next lecture.

- All email enquiries about term tests or exams will be answered in class.
- **Use of laptops in class is NOT permitted unless you have express permission from SAS. It has proven to be too disruptive during class as many people end up surfing the net.**
- **Please turn off cell phones during class.**

Missed tests or presentations automatically receive a score of zero. In the event of an emergency or illness, the Anthropology office (220-6516) or the instructor **MUST** be notified **BEFORE** the exam, and documentation **MUST** be provided before a make-up test will be scheduled. Performance on make up exams is typically lower than those taken with the class.

The midterm is NOT returned to students. I will go over the test IN CLASS the week after the test, by which time marks should be available on D2L. If you would like to consult your test, you may come to our posted office hours, or make an appointment. If, after consulting the key, your notes, and the text you have concerns about the marking of your exam, you will be asked to provide a detailed written statement of your concern. Your exam will then be re-graded in its entirety, and marks will be raised, lowered or left unchanged as is warranted. Deadline for the submission of written statement is one week after results of an examination have been posted.

No special arrangements will be made following a poor test performance. For example, we cannot change the weighting of the tests, allow retakes, or accept alternate assignments in lieu of the test. Prepare in advance to ensure a good test performance – this is your opportunity to perform well, not later. After the test no changes will be made.

Final course grades will be calculated as follows:

A+ 100 - 94.9%
 A 94.8 - 89.9%
 A- 89.8 - 84.9%

B+ 84.8 – 79.9%
 B 79.8 - 74.9%
 B- 74.8 – 70.9%

C+ 70.8– 66.9%
 C 66.8 – 62.9%
 C- 62.8 – 58.9%

D+ 58.8 – 54.9%
 D 54.8 – 49.9%
 F 49.8% and below

Academic misconduct

The University expects Students to conduct Academic Activities with integrity and intellectual honesty and to recognize the importance of pursuing and transmitting knowledge ethically. “Academic Misconduct” includes such things as Cheating, Falsification; Plagiarism, Unauthorized Assistance and failure to comply with exam regulations or an Instructor’s expectations regarding conduct required of Students completing academic assessments. Academic Misconduct is a serious form of intellectual dishonesty with significant consequences. Students who participate in, or encourage the commission of, Academic Misconduct will be subject to disciplinary action which could include Probation, Suspension, or Expulsion from the University. For more information see the Student Academic Misconduct Policy (<https://www.ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>)

Instructor intellectual property

Lectures, demonstrations, performances, and any other course material provided by an instructor includes copyright protected works under the Copyright Act and all forms of electronic or mechanical recording of lectures, laboratories, tutorials, presentations, performances, electronic (computer) information, the duplication of course material, and to the translation of recordings or transcriptions of any of these materials to another form by electronic or mechanical means by students is not permitted, except.

- As a formal accommodation as assessed by the Student Accessibility Services and only for individual private study and only at the discretion of the instructor.
- With the permission of the instructor, students without a formal accommodation may audio record lectures, provided that the student and instructor sign a release form available from departmental and faculty offices. A copy of the Release form shall be retained by the instructor and by the department in which the course is offered. Any audio recording by students is permitted only for the purposes of private study by the individual student. Students may not distribute, email or otherwise communicate these materials to any other person.
- For any other use, whether by duplication, transcription, publication, sale or transfer of recordings, written approval must be obtained from the instructor for the specific use proposed.
- Any use other than that described above (e.g. distributing, emailing or otherwise communicating these materials to any other person, constitutes academic misconduct and may result in suspension or expulsion.
- Students are encouraged to make notes of classroom discussions, lectures, demonstrations etc.

Freedom of Information and Protection of Privacy Act

The University of Calgary is committed to protecting the privacy of individuals who work and study at the University or who otherwise interact with the University in accordance with the standards set out in the Freedom of Information and Protection of Privacy Act. The Department of Anthropology and Archaeology keeps exams and any term work not picked up for a minimum of one year after which it is destroyed. Please refer to the following link for detailed information: <http://www.ucalgary.ca/legalservices/foip>

Academic Accommodations

It is the student's responsibility to request academic accommodations according to the University policies. Students requesting an Accommodation on the basis of Disability are required to register with Student Accommodation Services (SAS) by submitting a Request for Accommodation in accordance with the Procedure for Accommodations for Students with Disabilities (<https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities.pdf>). SAS will issue a Letter of Accommodation which must be presented to either designated contact person within the Department or the appropriate Instructors within 10 days of the beginning of term. Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their Instructor or the Department Head/Dean or to the designated contact person in their Faculty.

Copyright

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.

Support and Resources:

Non-course-specific related information can be found on the Office of the Registrar's website: <https://www.ucalgary.ca/registrar/registration/course-outlines>

Note: information here includes

- Emergency Evacuation/Assembly Points
- Wellness and Mental Health Resources
- Student Success Centre
- Student Ombuds Office
- Student Union (SU) Information
- Safewalk