

ANTH 425 (LEC01)
Primate Cognition
GFC Hours 3-0
Winter 2024

Prerequisite(s): Anth 311

COURSE DESCRIPTION

The goal of this course is to introduce students to primary research and theoretical discussions on topics related to the mechanisms and function of primate cognition. What is unique about primate cognition? What selective pressures might have led to the emergence of a “primate” intelligence. We will explore areas such as social and ecological intelligence, tool use, theory of mind and language. In so doing, students will enhance scientific literacy as it pertains to evaluating empirical methods and interpretation, and develop critical evaluation skills as they relate to assessing research papers and the current state of primate cognition research in general.

LEARNING OUTCOMES:

The Department of Anthropology and Archaeology is committed to student knowledge and skill development.

After successfully completing 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.

READINGS AND TEXTBOOKS:

Required Text: *Animal Cognition* (Evolution, Behavior and Cognition) 3rd edition 2021 Clive Wynne and Monique Udell. PRINT or DIGITAL

In addition to this REQUIRED 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.

REQUIRED TECHNOLOGY and EQUIPMENT:

1. Access to computer with functional browser to access D2L course pages and the library website
2. Word processor to complete assignment

COURSE REQUIREMENTS AND ASSESSMENT

Assessments

Midterm exam (in class, Thursday Feb. 8)	30%
Paper Report (due online by 6pm, March 7)	35%
Final Exam* (registrar scheduled Apr 12-23)	35%

*The final exam is *not* cumulative

Both the midterm and final exam are IN CLASS and CLOSED BOOK exams. Missed examinations/tests cannot be made up 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 is at 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 two weeks of the missed test/exam on a day/time scheduled by the instructor.

Deferral of the registrar-scheduled final exam requires Registrar approval
<https://www.ucalgary.ca/registrar/exams/deferred-final-exams>

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>

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.

Department of Anthropology and Archaeology Grading Scheme:

A+	95 – 100%	B+	80 – 84.9%	C+	67 – 70.9%	D+	55 – 58.9%
A	90 – 94.9%	B	75 – 79.9%	C	63 – 66.9%	D	50 – 54.9%
A-	85 – 89.9%	B-	71 – 74.9%	C-	59 – 62.9%	F	< 50%

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.

Note: You do NOT need to pass each course component to earn a passing grade in this class.

Land Acknowledgement

The University of Calgary, located in the heart of Southern Alberta, both acknowledges and pays tribute to the traditional territories of the peoples of Treaty 7, which include the Blackfoot Confederacy (comprised of the Siksika, the Piikani, and the Kainai First Nations), the Tsuut'ina First Nation, and the Stoney Nakoda (including Chiniki, Bearspaw, and Goodstoney First Nations). The City of Calgary is also home to the Métis Nation of Alberta (Districts 5 and 6).

Acknowledgment and Respect for Diversity

The Department of Anthropology and Archaeology views 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.

COURSE POLICIES

- 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.
- **Please turn off cell phones during class.**

Lecture Notes: Lecture notes corresponding to weekly, in-class lectures will be posted before class each week in D2L. Posted notes are intended to enhance the lecture and augment your handwritten notes of lecture material, *not replace them*. The posted notes are **NOT** sufficient without the lectures themselves. *Class attendance and note taking are positively correlated with test performance and final grade.*

UNIVERSITY POLICIES

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 <https://live-ucalgary.ucalgary.ca/student-services/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 or the Department Head. The full policy on Student Accommodations is available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>.

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. The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: www.ucalgary.ca/pubs/calendar/current/k.html.

ACADEMIC MISCONDUCT

The University of Calgary 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.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are **strongly advised** to read the Student Misconduct section in the University Calendar at: www.ucalgary.ca/pubs/calendar/current/k-3.html. Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student's work as your own, (2) presenting an author's work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure>

For students wishing to know more about what constitutes plagiarism and how to properly cite the work of others, the Department of Geography recommends that they attend Academic Integrity workshops offered through the Student Success Centre: <https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity>

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. Information on Instructor Intellectual Property can be found at <https://www.ucalgary.ca/legal-services/university-policies-procedures/intellectual-property-policy>

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

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.

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://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.

SUPPORTS FOR STUDENT LEARNING, SUCCESS, AND SAFETY

Please visit the Registrar's website at: <https://www.ucalgary.ca/registrar/registration/course-outlines> for additional important information on the following:

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

TENTATIVE CLASS SCHEDULE

All (or most) of these readings will be available to you on your D2L portal. Where they are not, it is your responsibility to obtain them from the library (online journals). Be sure you have done the readings for each class.

January 11 **Lecture – Course Introduction and history of the study of animal cognition**

1. Text: Wynne & Udell Chapters 1 and 2, pp. 1-41.
2. How to (seriously) read a scientific paper:
<https://www.sciencemag.org/careers/2016/03/how-seriously-read-scientific-paper>
3. Rowe, C., & Healy, S. D. (2014). Measuring variation in cognition. *Behavioral Ecology*, 25(6), 1287-1292.

January 18 **The Primate Brain. What are big brains good for? Costs, benefits and the (non)necessity of big brains for complex behaviour**

1. Text: Wynne & Udell Chapter 5 pp. 97-131.
2. Isler, K & van Schaik, Carel (2009). The Expensive Brain: A framework for explaining evolutionary changes in brain size. *Journal of Human Evolution* (57), pp. 392-400.

January 25 **The Primate Brain. Where did it come from, and what's so special about? Ecological and Social Origins (Part 1)**

1. Text: Wynne & Udell, Chapter 7 pp. 159-190.
2. Milton, K. (1981). Distribution patterns of tropical plant foods as an evolutionary stimulus to primate mental development. *American Anthropologist*, 83, 534-548.
3. King, B. (1986). Extractive foraging and the evolution of primate intelligence. *Human Evolution*, 1, 361-372.
4. Vielleux et al. (2021). The sensory ecology of primate food perception, revisited. *Evolutionary Anthropology*

Feb. 1 **The Primate Brain. Where did it come from, and what's so special about? Ecological and Social Origins (Part 2).**

1. Dunbar, RIM. (1998). The Social Brain hypothesis. *Evolutionary Anthropology* Pp. 178-190.

2. Barrett, L., Henzi, P., & Rendall, D. (2007). Social brains, simple minds: does social complexity really require cognitive complexity?. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 362(1480), 561-575.
3. van der Bijl, W., & Kolm, N. (2016). Why direct effects of predation complicate the social brain hypothesis. *Bioessays*, 38(6), 568-577.

Feb. 8 MIDTERM (in class, 1.5 hrs). No class after exam.

Feb 15 **Concepts, reasoning and knowledge of the physical world**

1. Text: Wynne & Udell, Chapters 3 and 4 (pp. 43-95) and 6 pp. 133-157.
2. MacDonald, S. E., & Ritvo, S. (2016). Comparative cognition outside the laboratory. *Comparative Cognition & Behavior Reviews*, 11.

Feb. 22 Term Break – NO CLASS

Feb 29 **What primates know about their social world: Abstract social concepts**

1. Text: Wynne & Udell Chapter 10, pp. 259-287
2. Seyfarth, R. M., & Cheney, D. L. (2000). Social awareness in monkeys. *American Zoologist*, 40(6), 902-909.
3. Bergman et al. (2003). Hierarchical classification by rank and kinship in baboons. *Science*, vol. 302 pp. 1234-36.

March 7 **Social Knowledge Continued: Theory of Mind, Intentionality and perspective-taking**

1. Text: Wynne & Udell Chapter 8, pp. 193-225
2. Hare (2001) Can competitive paradigms increase the validity of experiments on primate social cognition? *Anim. Cogn.* 4: 269-280.
3. Tomasello, Call & Hare (2003). Chimpanzees understand psychological states – the question is which ones and to what extent? *TRENDS in Cognitive Sciences* Vol.7 No.4 pp. 153-65.
4. Whiten, A. (2013) Humans are not alone in computing how others see the world. *Animal Behaviour* 86.2: 213-221.

HAND IN REPORTS

March 14 **Primate Communication: What do primate signals mean and/or do?**

1. Text: Wynne & Udell Chapter 11, pp. 289-306
2. Seyfarth, Cheney & Marler (1980). Monkey responses to three different alarm calls: Evidence of predator classification and semantic communication. *Science*, 210, 801-803.
3. Rendall, D. 2021. Aping Language... *Frontiers in Psychology*
4. Arnold, K. & Zuberbühler, K. 2006. Language evolution: semantic combinations in primate calls. *Nature*, **441**, 303.

March 21 **Speak no evil: “Language” in apes and humans**

1. Text: Wynne & Udell Chapter 12, pp. 309-328
2. Savage-Rumbaugh, E. S; Rumbaugh, D. M.; Boysen, S. (1980). Do apes use language? *American Scientist*, Vol 68(1), Jan-Feb 1980, 49-61.
3. Tomasello, M. (2007). If they're so good at grammar, then why don't they talk? Hints from apes' and humans' use of gestures. *Language Learning and Development*, 3, 133-156.
4. Lyn, H. (2012). Apes and the Evolution of Language: Taking Stock of 40 Years of Research. Film: Can Chimpanzees Talk?

March 28 **“Culture” and social learning in primates and humans**

1. Text: Wynne & Udell Chapter 9, pp. 227-256
2. **Whiten A, Goodall J, Mc Grew WC, Nishida T, Reynolds V, Sugiyama Y, Tutin CEG, Wrangham RW, Boesch C (1999)** Cultures in chimpanzees. **Nature** 399:682–685
3. **Sarah Marshall-Pescini, Andrew Whiten (2008)** "Chimpanzees (Pan troglodytes) and the question of cumulative culture: an experimental approach."; *Animal Cognition*; 11:449-456.

April 4 **Conclusions and Consciousness**

1. Text: Wynne & Udell Chapter 13, pp. 331-346
2. Thomas Nagel (1974). What is it like to be a bat?

IMPORTANT DATES

M Jan 8	Start of Classes
R Jan 18	Last day to drop a class without a financial penalty
F Jan 19	Last day to add or swap a course
F Jan 26	Fee payment deadline for Fall Term full and half courses.
M Feb 19	Alberta Family Day No Classes.
Feb 18-24	Reading Break. No classes.
F Mar 29	Good Friday no classes
M Apr 1	Easter Monday no classes
T Apr 9	End of classes Last day to withdraw from half courses.
Apr 12-23	Fall Final Exam Period.
May 20-25	Exam period for Registrar deferred final exams

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