

WESTERN UNIVERSITY
LONDON CANADA

Department of Psychology
Winter 2027

Psychology 4990G Section 001

Special Topics: Comparative Cognition

1 Calendar Description

The special topic for this course will focus on cognition, evolution, and behaviour in nonhuman animals. In this course we will explore the interplay of psychology, biology, and ecology to understand how the external environment (ecology) has shaped complex cognitive abilities of animals via natural selection. We will highlight fascinating examples where very complex behaviours are explained by innate mechanisms. Sara Shettleworth's handbook, *The Fundamentals of Comparative Cognition*, alongside primary literature, will guide us through an array of topics from, perception, learning, memory, timing, and counting across the animal kingdom. This will be a discussion-based course with active participation expected.

Antirequisites: Not Applicable

Prerequisites: One of Psychology 2220A/B, Psychology 2221A/B, or Neuroscience 2000, Fourth year Main Campus Psychology students and Main Campus Psychology Special Students who receive 70% in the prerequisite course may enroll in this course.

3 lecture hours; Course Weight: 0.5

Unless otherwise stated, students are responsible for ensuring that they have successfully completed all prerequisites prior to enrolling. Where prerequisites have not been met, the instructor may require the student to withdraw from the course. In accordance with Western policy, this decision is not subject to appeal.

In the event of a discrepancy between this outline and Senate or University policies, the latter shall prevail. The instructor reserves the right to modify elements of this course outline for pedagogical or operational reasons. Any such changes will be communicated to students in a timely manner.

2 Course Information

Instructor:	Dr. Carrie Branch
Office & Phone:	AFAR 201
Office Hours:	By Appointment

Email: cbranch6@uwo.ca

Teaching Assistant: TBA

Office: TBA

Office Hours: TBA

Email: TBA

Time and Location of Classes: Thursdays 2:30 – 5:30 pm, UC 3225

3 Course Materials

Fundamentals of Comparative Cognition by Sara J. Shettleworth

Approximately \$30 on Amazon.ca

4 Course Objectives and Learning Outcomes

This course will follow a seminar style format, where we will read chapters of the book and discuss primary scientific literature to obtain a better understanding of animal cognition and how it is shaped by the environment. We will explore the fundamental mechanisms of both physical and social cognition. As part of this course, you will demonstrate mastery of the core principles of animal cognition, discuss and explain methodological approaches to studying cognition, specifically how to test innate versus learned behaviours, and formulate hypotheses, predictions, and tests to investigate active research questions in the fields of cognitive ecology and comparative cognition.

The following table outlines the course learning outcomes and how they are assessed.

Learning Outcome	Learning Activity	Assessment
Depth and Breadth of Knowledge	Reading	Pre-class quizzes
Describe and explain key concepts and research findings in comparative cognition.	Participating in class discussion	Discussion leading
Distinguish among innate and learned behaviours	Preparing for class presentation	Class presentation
Differentiate among functional and mechanistic drivers of cognition.	Writing proposal	Written proposal
Knowledge of Methodologies	Reading	Pre-class quizzes

Use of <i>Google Scholar</i> to locate current research findings. Organize and synthesize research results. Develop proposal to study aspect of animal cognition	Participating in class discussion Preparing for class presentation Writing proposal	Discussion leading Class presentation Written proposal
Application of Knowledge Critically evaluate concepts and theories of primary literature. Formulate testable hypotheses about animal cognition.	Reading Participating in class discussion Preparing for class presentation Writing proposal	Pre-class quizzes Discussion leading Class presentation Written proposal
Communication Skills Communicate ideas and research-based evidence orally and in writing in a professional manner	Participating in class discussion Delivering class presentation Writing proposal	Pre-class quizzes Discussion leading Class presentation Written proposal
Awareness of Limits of Knowledge Critically evaluate concepts and theories of primary literature. Identify gaps in literature and propose future studies to address these gaps	Reading Participating in class discussion Preparing for class presentation Writing proposal	Pre-class quizzes Class presentation Written proposal
Autonomy and Professional Capacity Work with others to share responsibilities in group project. Identify strengths in group work.	Participating in class discussion Preparing for class presentation	Class presentation Written proposal

5 Evaluation

Attendance and active participation during class time is essential and will be 15% of your final grade. Pre-class quizzes based on weekly readings of the textbook chapters will be 15% of your final grade. Each week, 2 students will be assigned to lead the chapter discussion, including an active learning activity for the rest of the class and the choice of a relevant primary research article (you may do this multiple times over the semester depending on class size; 30% total). For the final project (40% of final grade): pairs of students will work together to develop a research proposal based on a topic in the field of cognitive ecology. Students may choose their topic; however, it needs to be approved by the professor. Students will work together on the ideas and structure for this proposal and will present to the class together (15% of course grade); however, the written proposal will be an individual effort (25% of course grade). The written proposal will be due the first day of final exams and should be 2000 words, typed, and double-spaced (~8-10 pages in length). Style should follow the American Psychological Association (APA) Publication Manual.

The evaluation and testing formats for this course were created to assess the learning objectives as listed in section 4 and are necessary for meeting these learning objectives. All evaluations listed in this course outline are required components of the course and together account for 100% of the final grade. Weightings and assessment formats may be adjusted where required to support course learning objectives, with appropriate notice to students.

Policy on Missing Coursework

For all missing assignments, students will receive a zero. Late assignments will be accepted within 14 days of the due date, but will be penalized 3% for each day the assignment is late.

Make-Up exams will be held within one week of the original exam for excused absences for the Term and Final exams.

Students who encounter extenuating circumstances affecting their academic responsibilities may submit a request for academic consideration in accordance with Western University's Academic Consideration policies. Requests must be submitted through the [Student Absence Portal](#) and may require supporting documentation.

Because this is an essay course, as per Senate Regulations, you must pass the essay component to pass the course. That is, the average mark for your written assignments must be at least 50%.

This course is exempt from the Senate requirement that students receive assessment of their work accounting for at least 15% of their final grade at least three full days before the date of the deadline for withdrawal from a course without academic penalty.

Course grades within the Psychology Department are expected to be distributed around the following averages:

70%	1000-level to 2099-level courses
72%	2100-2999-level courses
75%	3000-level courses
80%	4000-level courses

In the event that course grades are significantly higher or lower than these averages, instructors may be required to make adjustments to course grades. Such adjustment might include the normalization of one or more course components and/or the re-weighting of various course components.

Policy on Grade Rounding

Course grades are rounded to the nearest whole number. No additional assignments will be offered to enhance a final grade. Requests to change a grade because it is needed for a future program will not be considered.

6 Assessment/Evaluation Schedule

<u>Assignment</u>	<u>Percent of grade</u>	<u>Due date</u>
In-class participation	15%	weekly
Reading quizzes	15%	weekly
Leading paper discussion	30%	various
Proposal presentation	15%	April 8
Written proposal	25%	April 8

7 Class Schedule

Date	Topic	Readings and quizzes
7-Jan	Introductions and What is comparative cognition?	Reading: Chp 1
14-Jan	Perception and attention	Reading: Chp 2 Pre-class Quiz Discussion Leaders
21-Jan	Memory	Reading: Chp 2, pgs 20-34

		Pre-class Quiz Discussion Leaders
28-Jan	Associative Learning	Reading: Chp 2, pgs 34-41 Pre-class Quiz Discussion Leaders
4-Feb	Discrimination, classification, and concepts	Reading: Chp 2, pgs 41-48 Pre-class Quiz Discussion Leaders
11-Feb	Spatial cognition	Reading: Chp 3, pgs 49-57, pre-class quiz and Discussion Leaders
18-Feb	READING WEEK	
25-Feb	Timing and numerical competence	Reading: Chp 3, pgs 57-66 Pre-class Quiz
4-Mar	Future planning and tool use	Reading: Chp 3, pgs 66-79 Pre-class Quiz Discussion Leaders
11-Mar	Social learning	Reading: Chp 4, pgs 81~90, Pre-class quiz and Discussion Leaders
18-Mar	Social behaviour	Reading: Chp 4, pgs ~90-101 Pre-class Quiz Discussion Leaders
25-Mar	Communication	Reading: Chp 4, pgs 101-110 Pre-class Quiz Discussion Leaders
1-Apr	Comparative cognition and human	Reading: Chp 5, pgs 112-124

	uniqueness	Pre-class Quiz Discussion Leaders
8-Apr	Research Proposal Presentations	

8 Academic Integrity

Scholastic offences are treated seriously at Western University. Students are expected to understand and comply with the University's standards of academic integrity. Scholastic offences may result in penalties up to and including expulsion from the University. Please read [Western's Scholastic Offences](#) policy for definitions and examples of Scholastic offences.

Statement on Use of Electronic Devices

No electronics are permitted to be used during exams, this includes cellular phones and 'smart' watches.

Plagiarism Detection Software

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western and Turnitin.com.

Use of AI

Responsible use of artificial intelligence (AI) tools is **permitted** in this course as a support for learning, not as a substitute for critical thinking or scholarly work. All use of artificial intelligence tools must comply with Western University's academic integrity standards.

Students may use AI tools (e.g., ChatGPT, Claude, Copilot) for:

- Brainstorming ideas or refining research questions
- Improving clarity, grammar, or organization
- Preliminary or background exploration of topics

AI must not be used to:

- Generate full drafts or final versions of assignments
- Replace analysis, interpretation, or synthesis
- Fabricate, misrepresent, or cite sources that the student has not independently consulted
- Bypass engagement with course materials

You are ultimately responsible for all work submitted under your name. AI output should be critically evaluated, substantially revised, and integrated thoughtfully, not copied verbatim.

All written assignments must include a brief AI Usage Statement, indicating:

- Which tools were used (if any)
- The purpose for which they were used
- How the output was modified and incorporated

Assignments submitted without an AI Usage Statement will not be accepted. Misuse of AI or failure to disclose its use may constitute a scholastic offence and will be addressed in accordance with Western University's academic integrity policies. Students are responsible for ensuring that all work complies with Western's scholastic integrity standards.

9 Academic Accommodations and Accessible Education

Western University is committed to providing an accessible learning environment. Students with disabilities or medical conditions requiring accommodation are encouraged to contact Accessible Education as early as possible. Accommodations will be implemented in accordance with University policy. Please review [Western's policy on academic accommodations](#) for student with disabilities. Accessible Education provides supports and services to students with disabilities at Western. If you think you may qualify for ongoing accommodation that will be recognized in all your courses, visit [Accessible Education](#) for more information. Email: aew@uwo.ca Phone: 519 661-2147

10 Absence & Academic Consideration

Please review Western's policy on [Academic Considerations](#):

11 Other Information

Helpful Websites

- Western's academic policies are available at the [Office of the Registrar](#).
- Departmental policies are available at the [Psychology Department website](#).
- Learning supports available at [Learning Development & Success](#).

Well-being

Western University provides a range of supports to promote student well-being. Students are encouraged to seek assistance when needed. Students who are in emotional/mental distress should refer to [Health and Wellness at Western](#) for a complete list of options about how to obtain help. Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you.

Grade Appeals

If you wish to appeal a grade, please read the [policy documentation](#) on requests for relief. Please first contact the course instructor. If your issue is not resolved, you may make your appeal in writing to the Undergraduate Chair in Psychology (psyugrd@uwo.ca).