

EVOLUTION OF COGNITION

Spring 2016 Tu/Th 11:40 AM-12:55 PM

Professor Herb Terrace

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Office hours: Tu & Th 10:30-11:30AM

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Edward Ward

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Office hours: Wednesdays 4-6pm, SCH 354

Prerequisites

Science of Psychology (PSYC W1001) or Mind, Brain, & Behavior (PSYC W1010), or instructor permission

Course Description

What is cognition? How did it evolve? What cognitive abilities do animals possess? What's special about language? This course provides a systematic review of different forms of cognition as viewed in the context of the theory of evolution. Specific topics include the application of the theory of evolution to behavior, associative learning, biological constraints on learning, methods for studying the cognitive abilities of animals and non-verbal infants, levels of representation, ecological influences on cognition, language development and evidence of consciousness in animals and non-verbal infants.

Course Role in Departmental Curriculum

PSYC W2250 is a 2200-level lecture class and is open to both majors and non-majors. For psychology majors and psychology post-baccalaureate certificate students, this course counts toward the Group I (perception and cognition) distribution requirement.

Course Objectives

Upon completing this course, you will be able to:

- * Discuss and evaluate major theories of cognition
- * Explain how evolution accounts for cognitive abilities
- * Define language and describe its special status
- * Summarize contributions of specific thinkers (e.g., Pavlov, Lorenz, Skinner, Chomsky)

Textbook & Reading Assignments

All reading material for this course is available on CourseWorks. You are responsible for keeping up with the reading. Exams will contain material from the readings not covered in lecture, so it is critical to complete each week's reading assignment thoroughly and thoughtfully if you wish to do well in this course. It is recommended that students complete the reading assignments prior to the associated lecture.

Grades & Exams

Your grade in this course is determined by your performance on three exams and weekly quizzes.

There will be 3 exams on the following dates:

Exam 1.	February 18	(Thursday)	Lectures 1-8
Exam 2.	March 29	(Tuesday)	Lectures 9-16
Exam 3.	April 28	(Thursday)	Lectures 17-24

The exams are non-cumulative and each exam is worth 30% of your grade, for a total of 90%. The quizzes make up the final 10%. There is no final exam.

Weekly Quizzes: Pass-Fail quizzes will be given during the last 10 minutes of Thursday lectures. Their purpose is to give you feedback about the level of detail that you are expected to recall from your readings and lectures. Quizzes are a great way to help students keep up with the material and to provide a preview of exam questions covering material from that week's lectures and readings. (NB: Quizzes will not be administered on exam days). A total of 12 quizzes are given throughout the semester, and students must pass 11 of them in order to receive the full 10% toward the final grade. If you fail a quiz, you are permitted to retake the quiz during the TA's office hours (see above).

Practice Exams & Review Sessions: To facilitate studying for exams, a practice exam will be posted on CourseWorks a few days prior to each exam. The TA will lead a review session to answer questions about the practice exam and resolve confusion about course content. Students will have the opportunity to post questions for the review session to a CourseWorks discussion board in advance.

Office Hours

We encourage you to visit us during our posted office hours (see above). You are free to drop in at your convenience, though we highly recommend making an appointment in advance via email. Office hours provide an opportunity to get to know your professor and TA, ask questions, and delve deeper into topics of special interest to you.

Course Policies

Make-up Exams: If you must miss an exam due to a severe illness or family emergency, you may take a make-up exam with permission from your dean and the professor. Please contact Professor Terrace and the TA as soon as possible, preferably prior to the exam, if you wish to request a make-up.

Students with Disabilities: If you require particular classroom accommodations or support services, please contact the Office of Disability Services (ODS—<http://health.columbia.edu/services/ods>) to make the necessary arrangements.

Academic Integrity

At the start of each exam, students will be required to sign an integrity pledge, consistent with the following excerpt from the Faculty Statement on Academic Integrity (www.college.columbia.edu/academics/integrity-statement):

"The intellectual venture in which we are all engaged requires of faculty and students alike the highest level of personal and academic integrity. As members of an academic community, each one of us bears the responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity...In practical terms, this means that, as students, you must be responsible for the full citations of others' ideas in all of your research papers and projects; you must be scrupulously honest when taking your examinations; you must always submit your own work and not that of another student, scholar, or internet agent."

LECTURE SCHEDULE

Lecture	Date	Topic
1	January 19	Syllabus, Exams, Grades
2	January 21	Introduction
3	January 26	Historical Background
4	January 28	Theory of Evolution
5	February 2	Instinct
6	February 4	Animal Communication
7	February 9	Classical Conditioning
8	February 11	Behaviorism 1
9	February 16	Behaviorism 2

	February 18	EXAM 1

10	February 23	Critiques of Behaviorism
11	February 25	Cognitive Psychology 1
12	March 1	Cognitive Psychology 2
13	March 3	Cognitive Psychology 3
14	March 8	Animal Cognition 1
15	March 10	Animal Cognition 2
MARCH 13-19		SPRING BREAK
16	March 22	Animal Cognition 3
17	March 24	Hominid Evolution

	March 29	EXAM 2

18	March 31	Infant Cognition 1
19	April 5	Infant Cognition 2
20	April 7	Human Language 1
21	April 12	Human Language 2
22	April 14	Artificial Intelligence
23	April 19	Intersubjectivity
24	April 21	Joint Attention
25	April 26	Theory of Mind

	April 28	EXAM 3
