
Seminar on Evolution of Intelligence, Consciousness & Language (GU4250)

Spring 2017

Lecture: Monday: 2:10 – 4:00 p.m.

Lecture Room: ### BUILDING

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Office Hours: Wednesday 12:00 – 2:00

Prerequisites:

Introduction: Psychologists, philosophers, neuroscientists, anthropologists, biologists and computational scientists, among others, have collaborated during recent years to produce important insights in the evolution of intelligence, consciousness and language. We plan to show how these disciplines have advanced our understanding of these topics. We expect that students will have made progress in learning the following goals:

Learning Goals

- A. An understanding of the theory of evolution as applied to behavior and cognition (as opposed to biological structure) by discussing particular examples, e.g., convergent and homologous evolution, exaptation, niche theory, sexual selection, etc.
 - B. An understanding of cognition in animals and pre-verbal infants, in particular, the concept of representation and to how it can be investigated without the use of language.
 - C. An understanding of why language is a special form of communication. An understanding of how language differs qualitatively from innate and involuntary forms of animal communication. An understanding of why grammatical complexity is but one of many differences between language and other forms of communication.
 - D. An understanding of the Theory of Mind and how it might apply to animals and to pre-verbal and verbal children. An understanding of intentionality and how it can be experimentally evaluated.
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Required Readings: The readings each week will be selected by the instructors and seminar leaders.

Website: Course-related materials will be made available on Courseworks. These will include the course syllabus, announcements, additional readings in PDF format, and course lectures (when applicable).

Course Work and Grading

1. Each student will serve as a discussion co-leader for two meetings. Prior to each seminar, all students will circulate by email comments and questions for that week's readings. Using these materials, the co-leaders will briefly outline the week's topic, pose questions that are of the greatest interest, and – where possible – identify any challenges to the readings' conclusions. Typically, each student should confer with the course instructor about the readings they would like to assign at least 3 weeks before their presentation. A student's presentations will count for 35% of the final grade. Participation of other students will also be evaluated (15% of the final grade).
2. Students that elect one of the first few seminars will meet with the instructor to discuss relevant readings. During these discussions, students will (1) decide what readings should be assigned to other students, (2) work on an outline that will be distributed to the other students at the start of their seminar and (3) discuss options for preparing a PowerPoint presentation that covers relevant topics. The same requirements will apply to all students but meetings with instructors will take place at a more leisurely pace.
3. Students will submit a set of questions and discussion points about each week's readings whose aim will be to provide thoughtful directions for class discussion. These should be e-mailed on the Friday preceding each seminar (15% of the final grade).
4. Each student will be required to submit a take home essay exam at the beginning of the exam period (35% of the final grade). The purpose of the take home exam is to provide students with an opportunity to critically evaluate various issues that have been discussed during the seminar. Grades will be determined by (1) the clarity of the student's arguments about the positions they take on each issue, rather than the degree with which they agree with the instructors' positions (or with anyone else's) and (2) students' ability to include information from the assigned readings and from seminar discussions.
5. Summary of grade calculation:

Seminar presentations:	35%
Discussion during seminar	15%
Emailed discussion points:	15%
Take home exam	35%

Academic Integrity

You will be expected to adhere to the Columbia University principles of academic conduct. In this course, an especially relevant passage from the Faculty Statement on Academic Integrity pertains:

“Scholarship, by its very nature, is an iterative process, with ideas and insights building one upon the other. Collaborative scholarship requires the study of other scholars' work, the free discussion of such work, and the explicit acknowledgement of those ideas in any work that inform our own. This exchange

of ideas relies upon a mutual trust that sources, opinions, facts, and insights will be properly noted and carefully credited.

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."

Go to <https://www.college.columbia.edu/academics/integrity-statement> for the full statement.

Course Attendance

Your participation in class each week, as presenters and as discussants, constitutes a majority of the grade for the course. Your attendance each week is therefore quite important. [One absence can be excused. Multiple absences, or any absence on a day you are assigned as a discussion leader, will affect your grade.]

Week	Lecture Topic	Sub-Topics
1	Course Introduction and Overview	Discussion Assignments
2	J.New Presentation	Evolutionary Psychology
3	Natural Selection	Convergent & homologous evolution; exaptation; sexual selection
4	Human Evolution	Bipedalism; anatomical changes from chimpanzees to <i>Homo sapiens</i>
5	Evolution of Cognition	Modularity, domain-specificity
6	Social Cognition	Machiavellian Intelligence, Comparative
7	Theory of Mind	Intentionality, Intersubjectivity
8	Gaze Following and Perception	Joint Attention
9	Infant Cognition	Intersubjectivity; non-verbal testing procedures
10	Evolution of Language	Gesture; non-verbal conversations between infant and her mother
11	Language Ability	Phonemic, morphemic, semantic, syntactic and pragmatic levels of analysis

12	Evolution of Consciousness	Distinction between awareness and consciousness; functions of consciousness
13	TBD	