

Philosophy 150: Philosophy of Cognitive Science

Fall 2022

MWF 10:00-10:50am WLH 2206

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Office hours: MW 8:50-9:50am RWAC Arts and Humanities 440

Overview

This course is an introduction to the philosophy of cognitive science. The title is somewhat odd, since philosophy is part of cognitive science. Cognitive science is an interdisciplinary effort to understand the mind. These disciplines include philosophy, linguistics, psychology, artificial intelligence, and neuroscience. The course is called philosophy “of” cognitive science because it offers broad overview of theoretical trends in cognitive science from 1959 to the present. The course will be divided into five units. Unit 1 will cover the demise of behaviorist psychology and the rise of “cognitive” states as the central explanatory posits in the study of the mind. Unit 2 will explore theories of the internal structure of these cognitive states – theories of concepts. The dominant view of cognition in the early years of cognitive science is as a form of computation. Unit 3 will explore different computational models of the mind. Unit 4 will cover a theoretical movement in cognitive science that rejects many of the assumptions of the first three units and instead views cognition as embedded, embodied, extended, enactive, and distributed. Finally, Unit 5 will cover Bayesian and predictive processing approaches to cognition that have become very influential in recent years.

Readings

All course readings will be available on Canvas.

Learning Outcomes:

Students should be able to demonstrate their understanding of the central concepts and arguments in the philosophy of cognitive science by engaging in discussions, completing written exams, and writing and revising an original essay that argues for a specific thesis related to a philosophical problem in cognitive science.

Assessments:

The assessments in this course are largely designed to keep you engaged with the lectures, readings, discussions, and other students in the course. Your grades for participation, quizzes, essay proposal, and essay draft total 55% of your grade. It should be easy to do well on these components if you stay engaged. The take-home midterm, final exam, and final essay will be graded on quality, and to get top marks on these components you will be required to demonstrate understanding of the material (for the midterm and final exams) and some original philosophical insight (for the final essay). Your grade in the course will be composed of the following:

Attendance and Participation – 15%

Lecture attendance is required. In lecture I will not only present and explain the readings, but we will engage in active learning projects. Being in class is essential to these activities. Exceptions will only be made with a documented excuse, such as a doctor's note. You may miss up to three lectures without an excuse and still receive full marks for attendance.

Quizzes – 15%

At the end of each two-week unit, we will devote one class period to review, followed by a short quiz on that unit. The goal of the quizzes is to assess whether students are keeping up with reading and lectures. They are designed to be quite easy for students who do so.

Midterm – 15%

The midterm take place in class 10/28. It will consist of two short essays (1-2 pages each). Students will be provided four essay prompts ahead of time and may choose to write on any two of them. The essay prompts will be on topics from units 1-3. The short essays should demonstrate understanding of the claims and arguments from the readings and lectures on the given topic. The essay prompts will be provided 10/21 and students will have until the day of the exam to craft a response to the two they choose. The midterm will be taken in class with no access to notes.

Research Proposal – 10%

Students will produce a one-page document that explains the thesis they plan to argue for in their essay and outlines the argumentative strategy they will employ. These may change over the course of composing the draft and revising it into a final paper. This assignment is designed to get you thinking about your essay early-on and receive feedback on how it may be improved. Students are free to choose any topic that interests them. Specific prompts will also be provided as models for the appropriate scope of the essay, and students may choose to write on those prompts if they wish. Prompts will be provided Oct. 6 after the midterm. Research proposals are due 11/13, submitted through Canvas. Prompts will be provided 10/28 after the midterm. Class time on 11/14, 11/16, and 11/18 will be devoted to discussing students' proposals and providing feedback.

Essay draft – 15%

One of the most important parts of writing an essay is revision. Students will be required to turn in a rough draft of their essay, due 11/24. The essay should present and develop an original thesis on one of the topics of the course. Prompts will be provided, but students are welcome to develop their own essay topics. The essay should be narrowly focused on a very specific claim, likely a single premise in an argument presented in a lecture or reading. Provide an original argument for your view about that claim and consider objections to your argument. The essay

should be 5 pages (1250 words), give or take a page. It should be easy to get full points for your draft so long as it reflects an honest effort to make a cogent argument.

Final Essay – 15%

Students will revise their essay, taking into account the comments they receive. You are almost certainly expected to make significant changes to your essay in order to get top marks. The final draft will be graded on quality, not merely on effort. The final essay will be due 12/2.

Final Exam – 15%

The final exam will be similar in format to the midterm exam. It will consist of three short essays (1-2 pages each). Students will be provided six essay prompts ahead of time and may choose to write on any two of them. The essay prompts will be on topics from units 4-6. The short essays should demonstrate understanding of the claims and arguments from the readings and lectures on the given topic. The essay prompts will be provided 12/2. We will then devote two class sessions to review. The final exam takes place on 12/9 8am-11am.

Course Schedule

This schedule may be modified as circumstances require.

Unit 1: Psychological Explanation

9/23 Course Introduction

9/26 Noam Chomsky - "A Review of B. F. Skinner's Verbal Behavior"

9/28 Jerry Fodor – “Introduction: The Persistence of the Attitudes” in *Psychosemantics: The Problem of Meaning in the Philosophy of Mind*

9/30 Pat Churchland & Paul Churchland - "Stalking the Wild Epistemic Engine"

10/3 Review and Quiz

Unit 2: Concepts

10/5 Jerrold Katz - "On the General Character of Semantic Theory"

10/7 Eleanor Rosch – “Slow Lettuce: Categories, Concepts, Fuzzy Sets, and Logical Deduction”

10/10 Eric Margolis – “The Significance of the Theory Analogy in the Psychological Study of Concepts”

10/12 Lawrence Barsalou – “Perceptual Symbol Systems”

10/14 Review and Quiz

Unit 3: Computationalism and its Critics

10/17 Pylyshyn, Z. 1984. *Computation and Cognition: Toward a Foundation for Cognitive Science*. MIT Press. Chapter 9. pp257-272.

10/19 Rumelhart, D.E. 1989. "The architecture of mind: A connectionist approach." In M.I. Posner (ed.), 1989, *Foundations of Cognitive Science*, pp133-160. Bechtel?

10/21 Fodor, J. & Pylyshyn, Z. 1988. "Connectionism and cognitive architecture: A critical analysis." *Cognition* 28: 3-71. Midterm Prompts Posted

10/24 Van Gelder, T. 1995. "What might cognition be, if not computation." *The Journal of Philosophy* 92: 345-381.

10/26 Review and quiz

10/28 Midterm

Unit 4: 4E and Distributed Cognition

10/31 Andy Clark and David Chalmers, "The Extended Mind"; Adams and Aizawa, "Why the Mind is Still in the Head"

11/2 Alva Noe, *Precis of "Action in Perception"*

11/4 Lakoff and Johnson, "Conceptual Metaphor"

11/7 Ed Hutchins "How a Cockpit Remembers its Speeds"

11/9 Review and Quiz

11/13 Research Proposals Due

11/14 Essay proposal discussion

11/16 Essay proposal discussion

11/18 Essay proposal discussion

Unit 5 – Bayesianism and Predictive Processing

11/21 – Jose Luis Bermudez – "Bayesianism in Cognitive Science"

11/23 – Rick Grush – "The Emulation Theory of Representation"

11/24 – Rough Draft Due

11/25 Thanksgiving Holiday

11/28 – Andy Clark – “Prediction Machines”

11/30 – Nico Orlandi & Geoff Lee - “How Radical is Predictive Processing?”

12/2 Review and Quiz; Final Paper Due; Final Exam Prompts Posted

12/9 Final Exam 8am-11am