Philosophy of Cognitive Science[1]

What is it to have a mind? Is the mind the same thing as the brain? How can philosophy shape our scientific understanding of the mental processes? Cognitive science is an interdisciplinary field which studies the mind, drawing from philosophy, psychology, neuroscience, computer science, and linguistics. This course will consider, on the one hand, how philosophy fits into cognitive science and, on the other hand, how developments in cognitive science have shaped philosophy.

After completing this course students should:

> • Appreciate the interdisciplinarity of philosophy of cognitive science—in particular the diversity of viewpoints, the controversies, and the areas of emerging consensus.

> • Understand how philosophers can draw upon empirical work to inform their theories, making appropriate connections and comparisons in research fields across disciplines in the cognitive sciences.

> • Be able to define and discuss foundational concepts in philosophy of cognitive science (e.g., computation, mental representation, attention, social cognition, etc.).

> • Know how to read and substantively engage with scholarly articles

Readings

Week 1: Explanations in cognitive science
Jerry Fodor "How the mind works: We still don't know"
David Marr "Vision"
Angela Potochnik "Levels of explanation reconsidered"
Frances Egan "Computation and content"

Week 2: Computation
Alan Turing "Computing machines and intelligence"
Corey Malley "How (and why) to think the brain is literally a computer
Michael Riscorla "Computational modeling of the mind: What role for mental representation?"

Week 3: Personal and Subpersonal Processing
Zoe Drayson "The personal/subpersonal distinction"
Sebastian Watzl "Self Control, attention, and how to live without special motivational powers"
Carolyn Jennings & Alex Dayer "Attention in skilled behavior: An argument for pluralism"

Week 4: Attention
Ned Block "Attention and Mental Paint"

---

[1] Optional readings in italics

Wayne Wu "Shaking Up the Mind's Ground Floor: The Cognitive Penetration of Visual Attention"
Grace Lindsay "Attention in Psychology, Neuroscience, and Machine Learning"

Week 5: The Perception/Cognition Border
Chaz Firestone & Brian Scholl "Cognition does not effect perception: Evaluating the evidence for "top-down" effects"
Susanna Siegel "Cognitive Penetrability and Perceptual Justification"
Ned Block excerpts from "The Border Between Seeing and Thinking"

Week 6: Modularity and the Language of Thought
Jerry Fodor "Why there still has to be a language of thought."
Jake Quilty-Dunn, Nicolas Porot, & Eric Mandelbaum "The language-of-thought hypothesis as a working hypothesis in cognitive science"
Adina Roskies & Colin Allen "Language-of-thought hypothesis: Wrong but sometimes useful?"

Week 7: Non-Propositional Thought
Elizabeth Camp "Thinking with maps" & "Why maps are not propositional"
Susan Carey "Where our number concepts come from"
Sam Clark "Mapping the Visual Icon"

Week 8: Beliefs
Eric Mandelbaum "Thinking is Believing"
Andy Egan "Seeing and Believing: Perception belief formation and the divided mind"
Eric Schwitzgebel "A phenomenal dispositional account of belief"

Week 9: Memory
Felipe De Brigard "The Nature of Memory Traces"
Sara Aronowitz "Semanticization Challenges the Episodic-Semantic Distinction"
Javier Gomez-Lavin "Working memory is not a natural kind and cannot explain central cognition"

Week 10: Moral Psychology
Jonathan Haidt "The emotional dog and its rational tail: A social intuitionist approach to moral judgment"
Josh Knobe "Person as a scientist, person as a moralist"
Cordelia Fine "Will the real moral judgment please stand up? The implications of social intuitionist models of cognition for meta-ethics and moral psychology"

Week 11: Bayesian Approaches to Cognitive Science

Thomas L Griffiths, Charles Kemp and Joshua B Tenenbaum "Bayesian models of cognition"
Nico Orlandi "Predictive Perceptual Systems"
Andy Perfors "Bayesian models of cognition: What's built in after all?"

Week 12: Artificial Intelligence
Paul Smolensky "On the proper treatment of connectionism"
Cameron Bruckner chapter 1 of "From deep learning to rational machines: What the history of philosophy can teach us about the future of artificial intelligence"
Nick Shea "Moving beyond content-specific computation in artificial neural networks"

Week 13: Social Norms
Chandra Sripada & Stephen Stich "A framework for the psychology of norms"
Cecilia Hayes "Rethinking Norm Psychology"
Edouard Machery & Ron Mallon "Evolution of morality"