

PHIL 360: Philosophical Aspects of Cognitive Science

Instructor: Dr. Austin A. Baker ('Austin', 'Dr. Baker', 'Professor Baker')

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Class meeting times: Wednesdays 11:30-12:50 and Fridays 1:10-2:30

Location: A3 Frelinghuysen Hall

Office hours: Wednesdays 1:30-2:30, Department of Philosophy, 106 Somerset Street, Rm. 526

What is it to have a mind? How can philosophy shape our scientific understanding of the mind? With the advent of psychology and neuroscience, what can philosophy distinctively add to the study of cognitive science?

Cognitive science is the empirical and theoretical study of the mind and draws from philosophy, psychology, neuroscience, linguistics, computer science, and artificial intelligence. This upper-division undergraduate and graduate seminar will focus philosophical contributions to the development of cognitive science. We will consider the ways philosophical theorizing has informed empirically perspectives on the (1) structure of the mind, (2) nature of perception, and (3) social cognition.

Course Assessment

Assessment will be broken down into the following three subcomponents: paper(s) (50%), presentations (35%), and questions (15%).

Paper(s) (50%)

Students can choose to either write two short papers or one long paper:

- (1) *Short paper:* Students who choose the short paper option must write **two** 4-6 page papers. Short papers critically engage with one or more of the articles assigned. Students are expected to select one point brought up in the article and thoroughly discuss it. Note that papers will not score highly if they do not go beyond mere summary of the readings and/or of points that were discussed in class. Students who pursue the short paper option must choose topics from different units. Short papers are due on the last day of the unit.
- (2) *Long paper:* Students who choose the long paper option must write **one** 10-15 page research paper. Students writing long papers must get their paper topic and outlines approved and have a one-on-one development meeting with me.

Presentations (35%)

Each student will be assigned one reading to prepare a presentation on. There will be 2-3 presentations per class, one for each paper assigned. Student presentations should lay out key points and findings of the paper, which students can present with aid of either a powerpoint or handout. Presenters should also come prepared with a set of discussion questions for the class. Presentations will be graded on clarity, level of critical engagement, and delivery.

Response Questions and Participation (15%)

Students are expected to submit two response questions (one per paper assigned) each week. The questions should go beyond obvious summary of the article and should evidence critical engagement with the text. Students will also receive points for actively participating in class. Late submissions are not accepted for any reason, however, the two lowest weekly response grades will be dropped.

Reading

There is no required textbook for this course. I will provide a reading pack consisting of peer-reviewed academic journal articles, book chapters, and textbook chapters. You will have access to them through Canvas. I will also post optional readings—which I suspect students might find helpful or interesting—that are related to the topics we cover in the course to Canvas.

Plagiarism

Familiarize yourself with the University's extensive academic integrity policy at academicintegrity.rutgers.edu. Instances of plagiarism will be reported immediately to the Office of Student Judicial Affairs.

Disability Services

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where they are officially enrolled, participate in an intake interview, and provide documentation. For more information visit the Rutgers Office of Disability Services: <https://ods.rutgers.edu>.

Join the Rutgers Cognitive Science Club!

The Rutgers Cognitive Science Club hosts a guest speaker series, socials, and movie nights. To find out more information go to: rucogsciclub.com

Unit 1: What is the structure of the mind?

Week 1: What is cognitive science?

Wednesday: Introductory Class

No reading

Friday: Introduction to cognitive science

Readings: Fodor, Jerry (2006). “How the mind works: We still don’t know”, *American Academy of Arts and Sciences*

Carey, Susan (2015). “The *science* of cognitive science”, *Social Anthropology* 14(1):

Week 2: Explanation

Wednesday: Explanation in cognitive science

Reading: Marr, David (1982). *Vision*, Except. pp. 68–83.

Friday: More on levels of explanation

Reading: Potochnik, Angela (2010). "Levels of explanation reconsidered*", *Philosophy of Science* 77(1): 59–72.

Week 3: Empiricism

Wednesday: Empiricism (I)

Reading: Prinz, Jesse (2005). "The Return of Concept Empiricism" in *Categorization and Cognitive Science*

Friday: Empiricism (II)

Reading: Two empirical studies on concept empiricism

Week 4: Nativism

Wednesday: Nativism (I)

Reading: Spelke, Elizabeth and Katherine Kinzler (2007). "Core knowledge", *Developmental Science* 10(1): pp. 89–96.

Friday: Nativism (II)

Reading: Carey, Susan (2009). "Where our number concepts come from", *Journal of Philosophy* 106(4): pp. 220–54.

Week 5: Modularity of mind

Wednesday: Overview of the Modularity of Mind

Readings: Fodor, Jerry (1983). "Four Accounts of Mental Structure" in *The Modularity of Mind*.
Robbins, Philip, "Modularity of mind", *The Stanford Encyclopedia of Philosophy* (Fall 2017 Edition),
Edward N. Zalta (ed.), forthcoming URL
<<https://plato.stanford.edu/archives/fall2017/entries/modularity-mind/>>.

Friday: Objections to the modular mind

Reading: Prinz, Jesse (2006). "Is the mind really modular?" in *Contemporary Debates in Cognitive Science*

Unit 2: Perception and Cognition

Week 6: Top-down effects

Wednesday: The case against top-down effects

Reading: Firestone, Chaz and Brian Scholl (2016). "Cognition does not effect perception: Evaluating the evidence for "top-down" effects", *Behavioral and Brain Sciences* 39: 1–72.

Friday: Responses to "The case against top down effects"

Reading: Firestone and Scholl Response articles

Week 7: Perception and attention

Wednesday: Visual attention

Reading: Carrasco, Marisa (2011). “Visual attention: The past 25 years”, *Vision Research* 51: pp. 1484–1525.

Friday: Attention and mental content

Reading: Block, Ned (2010). “Attention and mental paint”, *Philosophical Issues* 20(1): pp. 23–63.

Week 8: Perception and action

Wednesday: Exploring the relationship between perception and action

Reading: Clark, Andy (2008). “Perception, action, and experience: Unraveling the golden braid”, *Neuropsychologia* 47(6): pp. 1460–8.

Friday: Sensorimotor theory of perceptual experience

Readings: O’Regan, K. and Alva Noë (2001). “What it is like to see: A sensorimotor theory of perceptual experience”, *Synthese* 129(1): pp. 79–103.

Clark, Andy (2006). “Vision as dance? Three challenges for sensorimotor contingency theory”, *Psyche* 12(1).

Week 9: The cognitive science of belief

Wednesday: Fragmentation

Reading: Egan, Andy (2008). “Seeing and believing: perception, belief formation and the divided mind”, *Philosophical Issues* 140(1): pp. 47–63.

Friday: Belief

Reading: Mandelbaum, Eric (2014). “Thinking is believing”, *An Interdisciplinary Journal of Philosophy* 57(1): pp. 55–96.

Week 10: Implicit Bias

Wednesday: The Implicit Association Test

Reading: Lane, Kristen, Mahzarin Banaji, Brian Nosek, and Anthony Greenwald (2007). “Understanding and using the Implicit Association Test: IV”, in *Implicit Measures of Attitudes*
AND *take at least two* of the implicit bias tests at implicit.harvard.edu

Friday: The content of implicit bias

Reading: Mandelbaum, Eric (2014). “Attitude, inference, association: On the propositional structure of implicit bias”, *Noûs* 50(3): pp. 629–658.

Unit 3: Interacting with the Social World

Week 11: Face perception

Wednesday: Social vision

Reading: Zebrowitz, Leslie, Matthew Bronstad, and Joann Montepare “An ecological theory of face perception”

Friday: The import of face perception

Readings: Eberhardt, Jennifer, Paul Davies, Valerie Purdie-Vaughns, and Sherri Johnson (2006). "Looking deathworthy: Perceived stereotypicality of black defendants predicts capital-sentencing outcomes", *Psychological Science* 17(5): pp. 383–6.

Hugenberg, Kurt and Galen Bodenhausen (2004). "Ambiguity in social categorization: The role of prejudice and face affect in race categorization", *Psychological Science* 15(5): pp. 342–5.

Week 12: Language and Psychological Essentialism

Wednesday: Generic statements

Reading: Leslie, Sarah Jane (2014). "Carving up the social world with generics" in *Oxford Studies in Experimental Philosophy*.

Friday: Psychological Essentialism

Reading: Rhodes, Marjorie and Tara Mandalaywala (2017). "The development and developmental consequences of social essentialism", *WIREs Cognitive Science*.

Week 13: Moral Psychology

Wednesday: Rationalism

Reading: Haidt, Jonathan (2001). "The emotional dog and its rational tail: A social intuitionist approach to moral judgment", *Psychological Review* 108(4): 814–34.

Friday: Intuitionism

Reading: Kennett, Jeanette and Cordelia Fine (2009). "Will the real moral judgment please stand up? The implications of social intuitionist models of cognition for meta-ethics and moral psychology", *Ethical Theory and Moral Practice* 12(1): pp. 77–96.

Week 14: Emotions

Wednesday: Universality of emotions

Reading: Ekman, Paul and Wallace Friesen (1971). "Constants across cultures in the face and emotion", *Journal of Personality and Social Psychology* 17(2): 124–9.

Matsumoto, David and Bob Willingham (2009). "Spontaneous facial expressions of emotion of congenitally and noncongenitally blind individuals", *Journal of Personality and Social Psychology* 96(1): pp. 1–10.

Friday: Social constructivism about emotions

Reading: Barrett, Lisa Feldman (2012). "Emotions are real", *Emotion* 12(3): pp. 413–29.

