

**01:730:360**

**Philosophical Aspects  
of Cognitive Science**

**Fall 2019**

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**Required Texts**

All readings, handouts, assignments, and announcements will be posted on Sakai. Links to videos and newspaper articles are on the syllabus, and will also be posted in weekly Sakai announcements.

**Course Description**

What are minds and what does it take to have one? The first part of this course will be an investigation of this question using tools from philosophy and cognitive science. Questions we will explore include: Are minds elaborate calculators? Do animals and computers think? What are the mechanisms underlying thinking and feeling? What can we learn about our own minds from artificial intelligence?

In the second part of this course, we will look at what cognitive science tells us about how good we are at thinking and about cognitive mechanisms that facilitate injustice. In this part of the course, we will address questions like: How irrational are we really? What kinds of biases shape up how we interact with one another? What features of cognition facilitate discrimination and unjust treatment in our world? Thinking carefully about the mind – and looking at what cognitive science tells us about it - can lead us to revise our self-conception as rational, deliberative agents, and help us become aware of our biases and pernicious habitual ways of thinking.

This class will be discussion-oriented, and we will read texts both in philosophy and in cognitive science. Familiarity with both fields is welcome but not expected.

**Course Goals**

In this course, you will:

- Develop an understanding of the philosophical foundations of cognitive science.
- Acquire a clear grasp of the central concepts and theories that cognitive scientists and philosophers have developed to study the mind.
- Critically examine and evaluate your conception of the mind in the light of cognitive science, and the assumptions made in cognitive science in the light of philosophical arguments.
- Learn to apply cognitive science findings to better understand the social world.

In pursuing these course-specific goals, you will also acquire the following general skills:

- To interpret scientific results and apply them in addressing long-standing philosophical questions about the mind.
- To engage in close and charitable readings of sophisticated arguments.
- To criticize views by giving focused objections to them and anticipating replies.
- To effectively and concisely communicate complex ideas in your writing.

- To engage in respectful, reasoned, and passionate debate with peers about complex topics that lack clear answers, and to use such debate as a tool for understanding.

My hope is that you also acquire enthusiasm (and confidence) for thinking about thinking and for engaging philosophically with texts from a variety of disciplines.

### Schedule of Topics and Readings

*All classes meet at 2:30-4:10pm at SC-120 (CAC). This schedule is subject to revision.*

<b>Unit 1. What is the structure of minds?</b>		
<b>Date</b>	<b>Topic</b>	<b>Readings</b>
Sep 4	What is cognitive science?	None
Sep 9	How do cognitive scientists	Marr, <i>Vision</i> , pp. 68–83
Sep 11	explain the workings of the mind?	Shea “Neural Mechanisms and Decision Making at the Personal Level”
Sep 16		Von Eckhart, “The Representational Theory of Mind”
Sep 18	Are minds computers?	Clark, <i>Mindware</i> , ch 1 Antony, “The Mental and the Physical”, excerpt
<b>Unit 2. What kinds of things have minds?</b>		
Sep 23		Gideon Lewis-Kraus, <a href="#">“The Great A.I. Awakening”</a>
Sep 25	Do machines have minds?	Schneider, <a href="#">“The Problem of AI Consciousness”</a> Schneider, “Alien Minds”
Sep 30	Which animals have minds and	Carruthers, “On Being Simple Minded” Ruggles, <a href="#">“The Minds of Plants”</a>
Oct 2	what are they like?	McGeer and Pettit, “The Self-Regulating Mind” Santos, <a href="#">“Monkey Minds, human minds, and theatre”</a>
Oct 7	How did evolution and natural	Cosmides and Tooby, “Evolutionary Psychology: a Primer”
Oct 9	selection shape our minds?	Gelman, <i>Adapting Minds</i> , ch. 8
Oct 14	Recap.	
<b>Unit 3. How good at thinking are we really?</b>		
Oct 16	What capacities and mechanisms underlie rational thinking?	Tenenbaum et al., “How to Grow a Mind: Statistics, Structure, and Abstraction” <a href="#">Bayesian Statistics: a Beginner’s Guide</a>
Oct 21	Are we at the mercy of (some version of) the subconscious?	Lear, <i>Freud</i> , chapter 1 <b>FIRST PAPER DUE (6pm)</b>

Oct 23		Kahneman, <i>Thinking Fast and Slow</i> , chs. 1-4
Oct 28	What does cognitive science tell us about how we form and store beliefs?	Mandelbaum, "Thinking is Believing"
Oct 30		Egan, "Seeing is Believing"
Nov 4	To what extent do we know our own minds?	Bagrhamian and Nicholson, "The Puzzle of Self-Deception" Von Hippel and Trivers, "The Evolution and Psychology of Self-Deception", sections 4 and 5
Nov 6		Dunning, "The Dunning-Kruger Effect: on Being Ignorant of One's Own Ignorance" (selections)
<b>Unit 4. What does cognitive science teach us about the social world?</b>		
Nov 11	What is implicit bias and how does it shape our cognitive lives?	Gendler, "The Epistemic Costs of Implicit Bias"
Nov 13		Holroyd et al, "What is Implicit Bias?" Take two of the IAT tests at <a href="#">Project Implicit</a> Bartlett, " <a href="#">Can We Really Measure Implicit Bias? Maybe Not</a> "
Nov 18	How do we tend to think of marginalized social groups?	Leslie, "Carving Up the Social World with Generics"
Nov 20		Leslie, "The Original Sin of Cognition"
Nov 25	Recap. How to write a philosophy paper.	
Nov 27	<b>NO CLASS – FRIDAY SCHEDULE OF CLASSES.</b>	
Dec 2	How does bias affect science and technology?	Fine, <i>Delusions of Gender</i> , chs. 1, 3, 14-15 <b>PAPER OUTLINE DUE (6pm)</b>
Dec 4		Knight, " <a href="#">Biased Algorithms are Everywhere and No One Seem to Care</a> "
Dec 9	Can empathy help fight back against unjust cognition?	Spinrad and Eisenberg, "Empathy and Morality: a Developmental Psychology Perspective"
Dec 11		Jesse Prinz, "Against Empathy" Maibom, " <a href="#">Spot the Psychopath</a> " <b>DRAFT OF FINAL PAPER FOR PEER REVIEW DUE (12 pm)</b>
Dec 16	<b>PEER REVIEW DUE (6pm)</b>	
Dec 23	<b>FINAL PAPER DUE (6pm)</b>	

## **Course Requirements**

- Attendance and participation (10%)
- Weekly posts (20%)
- Two question reflections (15%)
- One short paper, 2-3 pages (20%)
- Final paper, 7-8 pages – 35%
  - o 1-page outline– 5%
  - o Peer review of paper draft, 1-2 pages – 10%
  - o Final paper, incorporating revisions – 20%

*Page counts are for font 12, double-spaced.*

## **Attendance and Participation**

Attending every class is compulsory. Please notify me in advance if you expect to miss a class and let me know the reason why.

This course will be a collaborative investigation of the mind. This means that the class depends on your active participation and appropriate preparation. You must pay attention in class, be engaged, and ask questions and make points which advance our collective understanding. And you must carefully do the assigned reading before every class and come prepared with questions (which can be clarificatory or substantive), objections, and alternative views.

## **Forum Posts**

Once a week, everyone will post a comment to the relevant week's Sakai forum. This can be an independent post or a reply to someone else's post. It should be a **short paragraph** engaging with some of the reading for that week. This can be either (a) a focused question on the reading (for example, a request for clarification on what view the author is putting forward, a question about how an argument works, or a question on how the view connects to other claims we have discussed in class), or (b) an objection to a specific claim made in the reading. In each case, you should write enough to explain the reasons for your comment and indicate what passages in the text you are focusing about.

I expect you to work hard at understanding the reading by yourself, and then let me know in your comments what points you found particularly puzzling or are interested in discussing further. We will then collectively address these during the two classes that week.

Comments are due **the day of class at 10 am**. Partial credit will be awarded for late responses. You can choose to write your comment for either day (Monday or Wednesday). You can miss or drop two posts over the course of the entire semester without penalty.

## **Question Reflections**

Each week of the course is oriented towards a specific question. Twice during the semester, you are expected to hand in an answer to the question we were discussing the previous week. Your answer should be about 1 page long, and it's due Wednesday of the week after at 6pm (so, for example, if you want to answer 'How do cognitive scientists explain the workings of the mind?', which we will discuss on Sep 9 and 11, your answer will be due Sep 18 at 6pm).

These will include:

1. A brief answer to the central question for the week.
2. Justification for your answer, appealing to material we read and discussed during the week.
3. One potential problem for the view you defend.

Your answer can reflect uncertainty: the world is complicated and there aren't clear answers. The important thing is that you articulate considerations that support your view.

If you need more time, e-mail me before that deadline to let me know. Late submissions will receive partial credit.

### **Papers**

Papers should be submitted with no identifying information and submitted as .pdfs with the last four digits of your RUID as the title through Sakai by the due date. Except in extreme conditions, extensions must be granted well before the due date; late papers will be downgraded 1/3 grade per day. The paper should be a reasoned defense of a view, addressing some of the topics and literature discussed in the class.

For the final paper, you will be expected to send me:

- a 1-page outline of your paper by Dec 2
- a paper draft by Dec 11
- a review of a peer's draft by Dec 16
- the final paper by Dec 23

This may seem like a lot of work, but the goal here is to help you produce the best paper possible and practice a range of important writing-relevant skills. We will spend time in class talking about all the relevant steps.

### **Other Expectations**

I expect you to be familiar with and to abide by RU's policy on academic and intellectual integrity: [academicintegrity.rutgers.edu/academic-integrity-policy](http://academicintegrity.rutgers.edu/academic-integrity-policy). Violations of this policy include cheating, fabrication, plagiarism, denying others access to information or material, and facilitating violations of academic integrity.

I also expect you to abide by the department's norms for discourse ([philosophy.rutgers.edu/about-us/discourse](http://philosophy.rutgers.edu/about-us/discourse)). In particular, I expect all participants to observe basic norms of civility and respect. This means stating your own views directly and substantively: focusing on reasons, assumptions and consequences rather than on who is offering them, or how. And it means engaging other's views in the same terms. No topic or claim is too obvious or controversial to be discussed; but claims and opinions have a place in the discussion only when they are presented in a respectful, collegial, and constructive way.

If you need to be absent for religious observances, let me know in advance. It is University policy to excuse without penalty students who are absent from class because of religious observance, and to allow the make-up of work missed because of such absence.

If you need special accommodations because of a learning disability or any other reason, please have the Office of Disability Services ([ods.rutgers.edu](http://ods.rutgers.edu)) get in touch with me.

## **Grading Rubric**

Below is roughly what each letter grade means. Note that ‘+’ grades will be assigned for fine-tuning.

### **A**

**Papers:** Fully answers the question in a concise and convincing manner. Provides a strong argument, with a clearly stated, relevant thesis, a transparent argument structure, and compelling premises. Considers objections and makes a persuasive effort to address them. Writes clearly, in plain language, and uses terminology in a precise manner. Shows insight by going beyond views or objections discussed in class.

**Weekly posts:** Misses or drops at most two posts. The large majority of the posts are relevant to the topic, concise, clearly written, and specific. They articulate a question or objection which reveals engagement with the text, and which contributes to class discussion.

**Short end-of-unit reflections:** Gives a clear and concise answer to the central question for the unit and provides a compelling example, both of which come with full justification. Writes clearly, in plain language, and uses terminology in a precise manner. Shows independent insight and critical thinking about the topic of the unit.

**Attendance and participation:** At most one unexcused absence. Comes to class fully prepared, with relevant questions or insightful comments on the reading. Regularly participates in in-class discussion in ways that contribute to others’ understanding and are relevant. Is always respectful and considerate of others and does not take up excessive time.

### **B**

**Papers:** Answers most of the question. Provides a solid argument, with a clear thesis, mostly transparent argument structure, and relevant premises, though the argument may have some significant gaps. Displays understanding of the topic by considering other views, though perhaps without articulating points independently or while showing confusion about some significant interpretative point. Writes mostly in a clear manner, though there might be inaccuracies that compromise the points made.

**Weekly posts:** Misses or drops three or four posts. Or: Almost all posts are more-or-less relevant to the topic, but some may be poorly articulated or fail to engage with a specific point in the text. Only a minority of the posts meet the criteria for an A.

**Short end-of-unit reflections:** Answers most of the prompt. Provides justification for the answer, though it may be insufficient or not clearly articulated. Shows understanding of the topic, but either with some inaccuracies or without a clear grasp of the application of the topic discussed.

**Attendance and participation:** Two or three unexcused absences. Or: Shows evidence of having done the reading each session, but in many cases in an uncritical manner. Participates in in-class discussion in more-or-less relevant ways. Is respectful of others.

### **C**

**Papers:** More-or-less off-topic and unclear. Fails to provide an argument and shows significant confusion about major interpretative points.

**Weekly posts:** Misses or drops five to seven posts. Or: more than a third of posts are irrelevant or off-topic.

**Short end-of-unit reflections:** More-or-less off-topic and unclear. Fails to give a clear answer to the question and a relevant example or shows serious confusion about the topic discussed.

**Attendance and participation:** Three to five unexcused absences. Or: In many classes, does not appear to have read the material. Fails to participate in relevant ways. The tone of participation is sometimes not fully respectful of others.

**D and below:** scarce evidence of effort or understanding along all dimensions.

**F:** dishonest work.

### **Student-Wellness Services**

#### **Just in Case Web App**

<http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

#### **Counseling, ADAP & Psychiatric Services (CAPS)**

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ [www.rhscaps.rutgers.edu/](http://www.rhscaps.rutgers.edu/)

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

#### **Violence Prevention & Victim Assistance (VPVA)**

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / [www.vpva.rutgers.edu/](http://www.vpva.rutgers.edu/)

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

#### **Disability Services**

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

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 you are officially enrolled, participate in an intake interview, and provide documentation:

<https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a

Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

**Scarlet Listeners**

**(732) 247-5555 / <http://www.scarletlisteners.com/>**

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.