

# Contemporary Philosophy of Science

Fall | 2020

## Instructor Information

### Instructor

Kino Zhao (she/her)

### Email

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### Office hours

Same as lecture time (Tu/Th 11-12:15)

## General Information

### Course Description

Why study philosophy of science when one can study science? What do philosophers have to say about science anyway? And why does it matter? This class does not answer these questions. Instead, we look at what philosophers of science talk about and arrive at our own answers. Maybe you will decide that philosophers have nothing interesting to say about science that scientists have not already said. Maybe you will decide that philosophy of science constitutes a crucial and healthy part of science. We will see.

As the title of the class suggests, we will be talking about *contemporary* philosophy of science, rather than outdated ones. One characteristic of contemporary philosophy of science is that it is not very systematic, partly because not enough time has passed for historians to systematize it (because it's still ongoing), partly also because of a methodological shift towards naturalism and practice-first philosophy (we'll talk about what this means). Consequently, instead of providing you with a system of knowledge, we will look at 5 contemporary debates within philosophy of science, some of which have more traditional roots than others and all of which still ongoing.

### Reading

*Contemporary Debates in Philosophy of Science*, edited by Christopher Hitchcock

This book contains several ongoing debates in contemporary philosophy of science, where recognized scholars from both sides are asked to write short chapters defending their side. The book has several benefits. First, it models good philosophical writing (at least good by contemporary standards) in terms of clarity, precision, and brevity. Second, it models good philosophy of science (again, by current standards) as scientifically informed and relevant philosophy. Third, it contains topics that are actively debated today, such that it's possible to have opinions on them that have not already been worked out.

- We will read the following 4 debates from this book: realism/antirealism (ch.5-6), laws in the social sciences (ch.7-8), causes (ch.9-10), evolutionary psychology (ch.15-16)

The 5<sup>th</sup> debate we will cover is the distinction between cognitive and non-cognitive values in science, which is not in this book. For this topic, we will read

- Helen Longino's 1996 "Cognitive and non-cognitive values in science: Rethinking the dichotomy" for a view against the distinction
- Daniel Steel's 2009 "Epistemic Values and the Argument from Inductive Risk"

Both papers will be posted online.

### Class Structure

This class contains 5 units, corresponding to the 5 debates we will be looking at. Each unit lasts 2 weeks, and contains 4 parts corresponding to the 4 lectures we would hold if we were doing this synchronously in person.

- [Part 1] Background overview of the debate. There will be *no required reading* for this part, but I will suggest further readings in case you want to know more.
- [Part 2] One side of the debate. The *required reading* is the chapter/paper associated with that side. For this, you will need to submit a **[Discussion Question]** (more on this below under **Assessment**)
- [Part 3] The other side of the debate. Same as above but for the other side.
- [Part 4] Epilogue. Here I will provide a brief review that ties the narrative together. There will be *no required reading* for this part either. I will also talk about some methodological issues in philosophy, e.g., how to write papers, how to approach debates.

I will upload videos of each part **the day before** the scheduled class time. Of course, you are not obligated to watch them until at least after the scheduled class day.

### Lecture times are office hours

I will hold Zoom rooms **during scheduled class time** that work like office hours. **Office hours will not be recorded** for privacy reasons. You don't have to come with questions; you can come with the intention of listening to other students' questions or opinions. However, I will not prepare things to say during office hours, so if no one has things to say, we'll just sit quietly being on our computers (which is a totally fine thing to do).

If you're in a different time zone (literally or figuratively) but would like to participate in real-time discussions, let me know. Of course we can always schedule 1-on-1 office hours, but I can also help facilitate discussion meetings with more than just me that meet at a different time.

### Assessment

#### Discussion Questions (2% x 10 = 20% of total grade)

Philosophy happens in discussions, and discussions are as good as the quality of questions people raise. Contrary to popular belief, asking good philosophical questions is more than read philosophy -> not understand something -> ask it. It's also a craft that one improves through practice.

Having to do this asynchronously is a little tricky, but here is my current plan (please let me know if you have other ideas we might try out): every week **by noon, before the day of class where there is a required reading** (So, Wednesday noon during [Part 2] weeks and Monday noon during [Part 3] weeks), **upload at least 1 question you have while reading the text on CCLE, under a thread which I will start for that week.** You can upload as many questions you have, but preferably fewer than 10.

**Credits are assigned on completion.** But these questions will inform how I record videos for that week (hence it's important to do it the day before, to give me time to read them). They can also be used during office hour discussions.

What to do if you have the same question as someone else? A few things. If you already have an articulation of the question, you can ask it anyway. You don't have to look through all previous questions to make sure yours is unique, but if you did look them through and found one similar, start a sub-thread with something like "I had the same question. [insert your articulation]". We may find out that you don't actually have the same question.

If you have not articulated your question, but you read someone else's question and think "that's such a good way to put it", then write that under their question. It's a service to philosophy if we all learn to give each other credit and approval. If you can say more about why a question is good, that counts as your discussion credit. (Simply saying "it's a good question" is not enough for credit, though.)

#### Post unit responses (4% x 5 = 20% of total grade)

After each unit, I will post a prompt. It's going to be something open-ended like "which side are you more sympathetic to?" You will record a short video/audio clip (~2 min) where you talk about what you think. I will share a few that I think are representative with the class. **Credits are assigned on completion.**

Note: if you don't want to show yourself on camera (or don't have the technology), an audio-only clip is fine. If you really don't want me to share your clip, just email me and let me know.

### Short Essays (30% x 2 = 60% of total grade)

There will be two short (<6 pages) essays in this class. In each essay, you choose one debate we've covered in this class, summarize the debate, and does one of three things: pick a side and say why it's better; argue that the two sides don't actually disagree; argue that the debate is not important. As we will discuss, these represent three responses one can have towards a debate: solving it, dissolving it, bracketing it. We'll talk more about essay writing throughout the class.

### Policies

#### Life happens

These are difficult times and you are more than students in a philosophy class. If things come up that would impede your ability to function in this class, **get in touch with me**. You don't have to tell me what happened; you don't have to provide proof. All you need to do is describe, to the best of your ability, what level of obstacle you are facing. E.g., perhaps you can't keep up with the schedule for a couple of weeks; perhaps you can watch videos but not think straight enough to write essays; perhaps you need to be completely out indefinitely. Let me know and we can figure out what type of accommodation makes the most sense.

#### Plagiarism

One benefit (to me) of talking about contemporary debates is that it's hard to plagiarize, because there just isn't a lot of readily available material online. As such, my policies will be a bit relaxed than usual:

- You need to cite the assigned texts when you quote or paraphrase from them. If you relied on any other material to understand the debate but do not know how to naturally bring in a citation, you can simply list all your sources at the end as "sources consulted". Don't worry about reference formatting.
- You are strongly encouraged to work with fellow classmates on understanding the readings. Please put the names of people you've worked with at the end of the essay.

#### Keeping up

Online education is hard. It's especially hard when you didn't sign up for online education. Barring significant events happening (in which case, see above **Life happens**), it's also possible to just be lost as the quarter flies by. Different people manage motivation differently, so you might have to experiment a bit to find the right rhythm. One option to consider is starting an accountability group with a few friends, where you meet regularly to talk about what you plan to do and when. In addition to telling each other to "get to work", also be sure to remember to tell each other if they have taken on too much and if they deserve a break.

There is a **Slack group** for the course that helps you stay connected with each other and with me. I will occasionally post topics for you to discuss, but those are optional, not for grade, and mostly just there to start a conversation. Feel free to post your own questions to me or to others. You can also create private channels for your study groups.

**Course Schedule (all time listed in PST)**

**Week 0**

Oct 1. syllabus, course plan, logistics, all the fun stuff

**Unit 1 – Can a theory’s predictive success warrant belief in the unobservable entities it postulates?**

Oct 6. Part 1 – Background

predictive success vs. truth, unobservable entities, realism/anti-realism

Oct 8. Part 2 – One side

Reading: [Chapter 5] Leplin

**Discussion questions due: noon Oct 7**

Oct 13. Part 3 – The other side

Reading: [Chapter 6] Kukla & Walmsley

**Discussion questions due: noon Oct 12**

Oct 15. Part 4 – epilogue

Reading philosophy; asking philosophical questions; recognizing when a question is answered

**Post unit reflection due: noon Oct 16**

**Unit 2 – Are there laws in the social sciences?**

Oct 20. Part 1 – Background

Why care about laws? Why pick on the social sciences?

Oct 22. Part 2 – One side

Reading: [Chapter 7] Roberts

**Discussion questions due: noon Oct 21**

Oct 27. Part 3 – The other side

Reading: [Chapter 8] Kincaid

**Discussion questions due: noon Oct 26**

Oct 29. Part 4 – epilogue

Writing philosophy; a “summary” is more than a summary; having opinions about others’ work

**Post unit reflection due: noon Oct 30**

**Unit 3 – Are causes physically connected to their effects?**

Nov 3. Part 1 – Background

Causation vs. correlation; causation is spooky

Nov 5. Part 2 – One side

Reading: [Chapter 9] Dowe

**Discussion questions due: noon Nov 4**

Nov 10. Part 3 – The other side

Reading: [Chapter 10] Schaffer

**Discussion questions due: noon Nov 9**

Nov 12. Part 4 – epilogue

Mid-quarter reflection

**Post unit reflection due: noon Nov 13**

**Unit 4 – Is the mind a system of modules shaped by natural selection?**

Nov 17. Part 1 – Background

The naturalistic fallacy

**Essay 1 due: noon Nov 17**

Nov 19. Part 2 – One side

Reading: [Chapter 15] Carruthers

**Discussion questions due: noon Nov 18**

Nov 24. Part 3 – The other side  
Reading: [Chapter 16] Woodward & Cowie  
**Discussion questions due: noon Nov 23**

Nov 26. Part 4 – epilogue  
“Practice-first”, “naturalistic” philosophy of science  
**Post unit reflection due: noon Nov 27**

**Unit 5 – Should we distinguish cognitive vs. non-cognitive values in science? Are they legit?**

Dec 1. Part 1 – Background  
Are cognitive values legit? Kuhn’s framework of science and non-empirical theory choice.

Dec 3. Part 2 – One side  
Helen Longino, 1996 “Cognitive and non-cognitive values in science: Rethinking the dichotomy”  
**Discussion questions due: noon Dec 2**

Dec 8. Part 3 – The other side  
Daniel Steel, 2009 “Epistemic Values and the Argument from Inductive Risk”  
**Discussion questions due: noon Dec 7**

Dec 10. Part 4 – epilogue  
Philosophy, science, society  
**Post unit reflection due: noon Dec 11**

**Final’s week**

**Essay 2 due: noon Dec 17**

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**Last updated Nov. 26, 2020**