

Phil 125: Philosophy of Science
Fall, 2025

Tuesday and Thursday, 5:20–6:55pm, Soc Sci 2 071

Contact Information

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Teaching Assistant:


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Zoom office hours: Wednesday, 5:20–6:20pm and Friday, 5:20–6:20pm (or by appointment)

Course Description

We will read some of the classic texts which created and set the stage for later developments within the subdiscipline now known as philosophy of science. The course will be divided into two halves, corresponding to two fundamentally different views about what makes science distinctively rational (due to Rudolf Carnap and Karl Popper, respectively). In each case we will also read important later works which were taken to undermine the view in question.

Modality: I will lecture in person in our assigned classroom at the scheduled times (with three exceptions due to Jewish holidays: see below). But I will also live-stream every lecture over Zoom, and make a recording of every lecture available on YouTube.

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Course Requirements

Participation in class discussion, worth 10% of the course grade. This will be conducted via the Discussion tool on Canvas. Each Sunday night (beginning Sunday April 5th), we will post a passage from the coming week's reading. Between that time and Thursday night of that week, every student is required (1) to post at least one question about this text and (2) to respond to at least one other student's question. The questions do not have to be complicated or profound, and the responses do not have to be long or contain any definitive answers, but both should show at least some thought about/attempt to understand the text. Your TA will check to make sure your question and answer meet this criterion (not intended to be a high bar at all).

A midterm assignment (your choice of a take-home exam or a 4–6 page paper) due Tuesday, November 4 (35% of the course grade), a final assignment (your choice of a take-home exam or a 4–6 page paper) (35% of the grade), due Tuesday, December 9, and a brief in-person final exam (20% of the grade), also due on Tuesday, December 9. At the in-person final you will be asked some questions about your own responses to the take-home assignments. (Note this means that, although the take-home final assignment is not due in finished form until the end of the day, you will need to have a reasonably good idea of your response before you come in to the final.)

Both take-home assignments will be available on-line, and there will be links to them from this syllabus as well as from my main course page. I will discuss the assignments in class when the due date draws near. You can find answers to some commonly asked questions about my assignments and grading in my FAQ(<https://people.ucsc.edu/~abestone/courses/faq.html>).

Papers are to be handed in, as attachments, via the “Assignments” tool on Canvas. Please submit in PDF or in a format easily convertible to PDF (e.g., MSWord). The system will accept late submissions, but late papers may not receive full credit. The system is *not* set up to allow resubmissions: once you press the “submit” button, it will not let you change your response. If, however, you mistakenly submit something and want to change it, please contact me and I can make an exception.

Please do not plagiarize. If you have any questions about plagiarism and re-

lated issues, please see <https://guides.library.ucsc.edu/citesources>. To find out what happens if you are accused of plagiarism, see the academic misconduct policy: <https://ue.ucsc.edu/academic-misconduct>.

AI policy: I encourage the use of AI assistance with proper caution (i.e., keeping in mind that current AI is often wrong). You may use AI assistance basically in any way that would not constitute cheating if you used a human for the same thing. Similarly, you should cite the AI in cases where you would cite a human. If in doubt, feel free to ask me for clarification.

Texts

Rudolf Carnap, *The Logical Structure of the World* (Open Court, 2003) (ISBN: 978-0812695236).

(This book is generally known as “the *Aufbau*,” following its original German title, *Der logische Aufbau der Welt*.)

Nelson Goodman, *Fact, Fiction, and Forecast* (Harvard, 1983) (ISBN: 978-0674290716).

Thomas Kuhn, *The Structure of Scientific Revolutions* (Univ. of Chicago Press, 2012) (ISBN: 978-0226458120).

Karl Popper, *The Logic of Scientific Discovery* (Routledge, 2002) (ISBN: 978-0415278447).

These texts can be ordered through the Bay Tree Bookstore and are on reserve at McHenry. Popper’s book is also available online through the course reserves page.

Readings not from the above four texts are available on Canvas.

Readings

Thursday, September 25: (no reading, first class). (Lecture on YouTube.)

Friday, September 26: **World Cassowary Day**

Part I: Carnap/Goodman/Quine

Tuesday, September 30: Carnap, *Aufbau*, Preface to 1st Edition (pp. xv–xviii); §§¹1–5 (pp. 5–10); §§17–25 (pp. 31–43). (Lecture on YouTube.)

Wednesday, October 1: (10:40am–12:15pm) Carnap, *Aufbau*, §§26–41 (pp. 47–70); §§46–60 (pp. 78–97). (Zoom only.) (Lecture on YouTube.)

Thursday, October 2: **No class** due to due to Yom Kippur.

Monday, October 6: (10:40am–12:15pm) Carnap, *Aufbau*, §61 (pp. 98–9); §67 (pp. 107–9); §75 (122–4); §78 (127–8); §§95–6 (pp. 152–4); §§98–103 (pp. 156–63); §§125–8 (pp. 194–9); §157 (p. 246); §§160–61 (pp. 254–7); §§165–9 (pp. 263–72). (Zoom only.) (Lecture on YouTube.)

Tuesday, October 7: **No class** due to due to the first day of Sukkot.

Thursday, October 9: Carnap, *Aufbau*, §§175–83 (pp. 281–98). (Lecture on YouTube.)

Monday, October 13: (10:40am–12:15pm) Carnap, *The Unity of Science*, §§1–3 and 6; Neurath, “Protocol Sentences”; Carnap, “On Protocol Sentences.” (Zoom only.) (Lecture on YouTube.)

Tuesday, October 14: **No class** due to due to Shemini Atzeret.

Thursday, October 16: Goodman, *Fact, Fiction, and Forecast*, ch. 2, §§1–3 and 5 (pp. 31–49 and 57–8). (Lecture on YouTube.)

Tuesday, October 21: Goodman, *Fact, Fiction, and Forecast*, ch. 3 and beginning of ch. 4 (pp. 59–99). (Lecture on YouTube.)

Thursday, October 23: Quine, “Epistemology Naturalized.”

Part II: Popper/Kuhn

¹The symbol § means “section.” §§ means “sections.”

Tuesday, October 28: Popper, *LSD*, ch. 1 and 2 (pp. 3–34). (Lecture on YouTube.)

Thursday, October 30: Popper, *LSD* ch. 3 (pp. 37–56). (Lecture on YouTube.)

Tuesday, November 4: Popper, *LSD*, ch. 4 (pp. 57–73) (and **Midterm assignment — exam or paper — due**). (Lecture on YouTube.)

Thursday, November 6: Popper, *LSD*, ch. 5 (pp. 74–94). (Lecture on YouTube.)

Tuesday, November 11: **No class (Veterans Day)**

Thursday, November 13: Popper, *LSD*, ch. 10 beginning and §79 (pp. 248–52); §82 (pp. 264–7); §84 through end (including Addendum), pp. 273–82. (Lecture on YouTube.)

Tuesday, November 18: Neurath, “Pseudorationalism of Falsification”; Putnam “The ‘Corroboration’ of Theories”; Lakatos, “Popper on Demarcation and Induction,” through end of part I (pp. 241–52). (Lecture on YouTube.)

Thursday, November 20: Kuhn, *SSR*, ch. 1–5, pp. 1–51. (Lecture on YouTube.)

Tuesday, November 25: Kuhn, *SSR*, ch. 6–8, pp. 52–91. (Lecture on YouTube.)

Thursday, November 27: **No class (Thanksgiving)**

Tuesday, December 2: Kuhn, *SSR*, ch. 9–10, pp. 92–135.

Thursday, December 4: Kuhn, *SSR*, ch. 11–13, pp. 136–73.

Tuesday, December 9: **In-person final exam, and final assignment (exam or paper) due.**