

Phil 125: Philosophy of Science
Winter, 2022

Tuesday and Thursday, 5:20–6:55pm, Cowell Com 134

Contact Information

Professor: Abe Stone (abestone@ucsc.edu)

Push notification: Notify Abe (<http://notifyabe1.appspot.com>)

Website: <https://people.ucsc.edu/~abestone/courses>

Zoom feed of lectures: <https://ucsc.zoom.us/j/92258363070?pwd=bHNqNDRCRmozZit0a0I5YXdh>

Zoom office hours: Mon. 2:00–3:00pm; Tues. 1:00–2:00pm (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: The first two weeks of the course will be on Zoom only, as the University has announced. After that, the (subject to change due to various possible developments, as we all know by now!) is that I will lecture in person in our assigned classroom. But I intend also to live-stream every lecture over Zoom. In both cases, I make a recording of every lecture available on YouTube. Office hours will be via Zoom only until further notice.

Course Requirements

A midterm assignment (your choice of a take-home exam or a 4–6 page paper) due Tuesday, February 15, and a final assignment (your choice of a

© ⓘ This document, and all other instructor-generated material in this course, is licensed under a Creative Commons Attribution 4.0 International License.

take-home exam or a 4–6 page paper), due Wednesday, March 16. Each of the two assignments is worth 50% of the course grade.

All paper assignments will be available on-line, and there are 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 related issues, please see <https://guides.library.ucsc.edu/citesources/plagiarism>. To find out what happens if you are accused of plagiarism, see the academic misconduct policy: <https://ue.ucsc.edu/academic-misconduct>.

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. Also on reserve at McHenry are two books which are good sources of further reading: *The Philosophy of Rudolf Carnap* and *The Philosophy of Karl Popper*, both edited by Paul Arthur Schilpp (these contain papers about Carnap and Popper, respectively, by various well-known people — for example, Putnam and Kuhn — along with Carnap's and Popper's replies). Readings not from the above four texts will be available on Canvas

Readings

Tuesday, January 4: (no reading, first class). (Lecture on YouTube.)

Part I: Carnap/Goodman/Quine

Thursday, January 6: Carnap, *Aufbau*, Preface to 1st Edition (pp. xv–xviii); §§¹1–5 (pp. 5–10); §§17–25 (pp. 31–43). I've made this first reading available here. (Lecture on YouTube.)

Tuesday, January 11: Carnap, *Aufbau*, §§26–41 (pp. 47–70); §§46–60 (pp. 78–97). (Lecture on YouTube.)

Thursday, January 13: Carnap, *Aufbau*, §61 (pp. 98–9); §67 (pp. 107–9); §75 (122–4); §§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). (Lecture on YouTube.)

Tuesday, January 18: Carnap, *Aufbau*, §§175–83 (pp. 281–98). (Lecture on YouTube.)

Thursday, January 20: Carnap, *The Unity of Science*, §§1–3 and 6; Neurath, “Protocol Sentences”; Carnap, “On Protocol Sentences.” (Lecture on YouTube.)

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

Tuesday, January 25: Carnap, “The Methodological Character of Theoretical Concepts,” §§1-6, beginning of §7 (through the paragraph that ends on top of p. 54), and §§8–10; Putnam, “What Theories Are Not.” (Lecture on YouTube.)

Thursday, January 27: Goodman, *Fact, Fiction, and Forecast*, ch. 2, §§1–3 and 5 (pp. 31–49 and 57–8). (Lecture on YouTube.)

Tuesday, February 1: Goodman, *Fact, Fiction, and Forecast*, ch. 3 and beginning of ch. 4 (pp. 59–99). (Lecture on YouTube.)

Thursday, February 3: Quine, “Epistemology Naturalized.” (Lecture on YouTube.)

Part II: Popper/Kuhn

Tuesday, February 8: Popper, *LSD*, ch. 1 and 2 (pp. 3–34). (Lecture on YouTube.)

Thursday, February 10: Popper, *LSD* ch. 3 (pp. 37–56). (Lecture on YouTube.)

Tuesday, February 15: Popper, *LSD*, ch. 4 (pp. 57–73) (and **Midterm assignment — exam or paper — due**). (Lecture on YouTube.)

Thursday, February 17: Popper, *LSD*, ch. 5 (pp. 74–94). (Lecture on YouTube.)

Tuesday, February 22: 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.)

Thursday, February 24: 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.)

Tuesday, March 1: Kuhn, *SSR*, ch. 1–5, pp. 1–51. (Lecture on YouTube.)

Thursday, March 3: Kuhn, *SSR*, ch. 6–8, pp. 52–91. (Lecture on YouTube.)

Tuesday, March 8: Kuhn, *SSR*, ch. 9–10, pp. 92–135. (Lecture on YouTube.)

Thursday, March 10: Kuhn, *SSR*, ch. 11–13, pp. 136–73. (Lecture on YouTube.)

Wednesday, March 16: **Final assignment (exam or paper) due.**