

Phil 8: Introduction to the Philosophy of Science

UCLA, Spring 2019
TR 12:30AM-1:45PM
MS 4000A

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Required Text

- (i) *An Introduction to the Philosophy of Science: Theory and Reality*, by Peter Godfrey-Smith
The University of Chicago Press. 2003.
- (ii) All additional assigned readings are available on our course website:
<https://ccle.ucla.edu/course/view/17F-PHILOS8-1>

Lecture Outlines

Lecture outlines are available on our course website, and will be posted in advance of each lecture. You may use them as a study tool in whatever way you see fit, though you are responsible for accessing them. I recommend using them *after* class to check against your own notes. **No copies of outlines will be provided in lecture.**

Lecture outlines are *not* meant to be comprehensive summaries of class content, and you are responsible for everything in lecture *regardless* of whether it has appeared on an outline.

Evaluation

Papers: You will be assigned **four two-page** papers over the course of the quarter. **Each paper is worth 15% of your final grade.** Paper topics will be provided for you. Refer to the schedule below for paper assignment and due dates.

PLEASE NOTE: Late papers will be accepted, but you will lose 10% of your final grade for every 72-hour period that the paper is late. (For example, if the paper is due Thursday at 11:30AM and you fail to hand it in, you have until 11:30AM on Sunday to turn it in for a loss of only 10% of your paper grade.) In very special circumstances, unpenalized paper extensions will be granted, but you *must* notify your TA about your situation *before* the paper is due, as soon as it is practical to do so.

Midterm: You will take an in-class midterm on Thursday, May 7th. The midterm format will be multiple choice. More information about the content of the midterm will be provided as the midterm approaches. **Your midterm is worth 10% of your final grade.**

Final: You will take a final exam on June 13th. The final will be the same format as the midterm. More information about the content of the final will be provided as the final exam approaches. **Your final is worth 20% of your final grade.**

Attendance: Your attendance in lecture is *not mandatory*, though you are responsible for all information covered in lecture. Most students will find it *very* difficult to do well in this course without regularly attending lecture. If you need to miss a lecture, it is a good idea to arrange to

borrow a fellow classmate's notes. Neither your TA nor I will provide you with notes for lectures that you have missed (other than the posted course outlines).

Attendance in recitation *is mandatory*. Your TA will take attendance. Furthermore, class discussion is an *essential* feature of any good philosophy class. Recitation is your opportunity to ask questions, make points, clarify issues, and complain about me. Recitation discussion will make your time in class much more fruitful and enjoyable, but it will also make your classmates experience more valuable and educational. Accordingly, **10% of your final grade** will be a function of your attendance in recitation.

If there is anything that your TA or I can do to make you personally feel more comfortable interacting during class, please do not hesitate to let us know.

Completion: Turning in each 2-page paper and taking both the midterm and the final are *required* for receiving a passing grade in this class. If you do not complete each of these requirements, you will fail this course *even if* your numerical grade is above failing. Remember that it is your responsibility to contact your TA or me about any missing work.

Conduct Code: In accord with the UCLA Student Conduct Code (available in full at http://www.deanofstudents.ucla.edu/Code_choice.php), take care to submit only work that is your own.

Undergraduate Writing Center

The Undergraduate Writing Center offers UCLA undergraduates one-on-one sessions on their writing. The Center is staffed by peer learning facilitators (PLFs), undergraduates who are trained to help at any stage in the writing process and with writing assignments from across the curriculum.

Services

Scheduled appointments

- 50-minute appointments in A61 Humanities
- 30-minute appointments in Reiber 115 (for dorm residents only)
- work in person with a Peer Learning Facilitator (PLF)

Walk-in appointments

- walk-in appointments available in A61 Humanities & Reiber 115
- first-come, first-served

Online Writing Center (OWC):

- 50-minute appointments
- submit your paper online, using Google Docs
- discuss your paper with a Peer Learning Facilitator, using Google Voice Chat

What you should bring to the Writing Center:

- A draft if you have one
- Preliminary notes or writing if you don't have a draft
- A copy of the assignment
- Instructor or peer comments on your paper
- Copies of readings or research related to the assignment.

Locations

A61 Humanities; Mon. – Thurs. 10AM – 6PM; Fri. 10AM – 3PM
Reiber 115; Sun. – Thurs., 7 – 9 PM (for dorm residents only)

Appointments

Students can walk-in but appointments are preferred. Visit our website:
www.wp.ucla.edu.

Click on “UCLA Writing Center/Make an Appointment.”

Contact

310-206-1320; wcenter@ucla.edu

Reading Schedule

Many days have been divided into two halves (“A” and “B”): each associated with a different topic and assigned reading. **Be advised:** you are responsible for *both* the A and B reading for each day. Also, while I will do my best to keep us on the following reading schedule, it is **subject to change** (with the following exceptions: paper assignment due dates will never be *earlier* than the schedule indicates, paper assignments will always be given *on the day* that the schedule indicates, and the midterm and final dates will not change.) At the end of each lecture, I’ll announce any changes in the topic/outline/reading for next lecture.

All readings are either from your book, or are available on our class website.

Unit 1: The Problem of Induction

Tuesday, April 2nd

- A. Course Introduction
 - Syllabus
 - Reading Schedule
 - (no assigned reading)
- B. Introduction to Justification
 - Outline 1
 - (no assigned reading)

Thursday, April 4th

- A. Problem of Induction
 - Outline 2
 - Reading: “An Encounter with David Hume” (Available Electronically) (Wesley Salmon, from Joel Feinberg, Reason and Responsibility, pp. 190-208)

Tuesday, April 9th

- A. The Pragmatic Vindication of Induction
 - Outline 3
 - Reading: “Pragmatic Vindication” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)

Thursday, April 11th

- A. The New Riddle of Induction
 - Outline 4
 - Reading: Theory and Reality: Chapter 3.4
 - **PAPER ASSIGNMENT #1**

Unit 2: “The” Scientific Method, Part 1: or, who needs to think that much about real life human scientists?

Tuesday, April 16th

- A. Background
 - Outline 5
 - Reading: Theory and Reality: Chapter 1
- B. Logical Positivism
 - Outline 6
 - Reading: Theory and Reality: Chapter 2

Thursday, April 18th

No Class

Tuesday, April 23rd

- A. The Hypothetical-Deductive Method
 - Outline 7
 - Reading: “The Hypothetico-Deductive Method” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)
- B. Qualitative Confirmation
 - Outline 8
 - (no assigned reading)
 - **Paper Assignment #1 DUE**

Thursday, April 25th

- A. Falsificationism
 - Outline 9
 - Reading: Theory and Reality: Chapter 4.1-4.4
- B. Creationism and Demarcation
 - Outline 10
 - Reading: Ruse Witness Testimony Sheet. (Available Electronically)

Unit 3: “The” Scientific Method, Part 2: or, maybe we need to think about actual human scientists a little?

Tuesday, April 30th

- A. The Ravens Problem
 - Outline 11
 - Reading: Theory and Reality: Chapter 3.1-3.3
 - **Paper Assignment #2**
- B. Objections to the H-D Method
 - Outline 12
 - Reading: **Read up to section 4, read section 10** “Physical Theory and Experiment” (Available Electronically) (excerpt from Pierre Duhem, *The Aim and Structure of Physical Theory*, trans. Philip P. Wiener (Princeton, N.J.: Princeton University Press, 1954)

Thursday, May 2nd

- A. Case studies in complexity
 - Outline 13
 - Reading: “Edible knowledge: the chemical transfer of memory” and “The non-detection of gravitational radiation”. (Available Electronically). (excerpt from Harry Collins and Trevor Pinch, *The Golem: what everyone should know about science*, Cambridge University Press:1993)
- B. Creationism revisited
 - Outline 14
 - Reading: “Science at the Bar” (Available Electronically) (Larry Laudan.)

Tuesday, May 7th
Midterm

Thursday, May 9th

- A. Kuhn and Normal Science
 - Outline 15
 - Reading: Theory and Reality: Chapter 5

Tuesday, May 14th

- A. Kuhn and Revolutions
 - Outline 16
 - Reading: Theory and Reality: Chapter 6
- B. Paper ASSIGNMENT #2 DUE**

Thursday, May 16th:

No class

Tuesday, May 21st

- A. Kuhn’s brand of relativism, clarified
 - Outline 17
 - Reading: “Objectivity, Value Judgement, and Theory Choice” by Thomas Kuhn. (Available Electronically) (from *In The Essential Tension*. University of Chicago Press. pp. 320--39. 1977)

Thursday, May 23rd

- A. Feminist approaches to philosophy of science
 - Outline 18
 - Reading: “Gender, politics, and theoretical virtue” (Available electronically)
Longino, Helen E. “Gender, Politics, and the Theoretical Virtues.” *Synthese*, vol. 104, no. 3, 1995, pp. 383–397
 - **Paper Assignment #3**

Tuesday, May 28th

- A. Feminist standpoint epistemology
 - Outline 19
 - Reading: “Feminist standpoint epistemology” (Available Electronically) (by Sharon Crasnow, from *Philosophy of Social Science: A New Introduction*”, edited by Nancy Cartwright, Eleonora Montuschi. Oxford University Press, 2014)

Unit 4: Anti-Realism and Explanation

Thursday, May 30th

- A. Realism
 - Outline 20
 - Reading: Theory and Reality: Chapter 12.1-12.4
- B. Anti-Realism
 - Outline 21
 - Reading: Theory and Reality: Chapter 12.4-12.6
 - Reading: Forward (to On the Revolutions of Heavenly Bodies) by Andreas Osiander (Available Online)
 - **Paper Assignment #3 Due**

Tuesday, June 4th

- A. Deductive-Nomological Model
 - Outline 22
 - Reading: “The Deductive-Nomological Pattern of Scientific Explanation”, “Problems for the D-N Pattern of Explanation” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)
- B. Inductive-Statistical Model
 - Outline 23
 - Reading: “Two Patterns of Statistical Explanation”, “Criticisms of the I-S Pattern of Scientific Explanation”, (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)

Thursday, June 6th

- A. More on Explanation
 - Outline 24
 - Reading: Theory and Reality: 13.3, 13.4
- B. Pragmatics of Explanation
 - Outline 25
 - “The Pragmatics of Explanation” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)
 - **Paper Assignment #4**

FINAL EXAM: Thursday, June 13th

11:30AM-2:30PM

FINAL PAPER #4 DUE