

Understanding Science (updated syllabus)

Philosophy 218, Fall 2017

MoWeFr 12:35PM–1:30PM

HU 133

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Office hours: M 3:00–4:00, W 2:00–3:00, and by appointment

Texts: All course readings are available on Blackboard.

I strongly encourage you to print the readings, to read actively, and to mark them up.

This course is an introduction to some issues in the philosophy of science, including the nature of scientific inference and knowledge. We will also consider the relationship between science and society. Some questions we'll consider include:

- What kind of activity is science?
- What sort of social organization makes for the most productive science?
- Should science set its own agenda, or should it be guided by our social aspirations?

Requirements and grading:

12% reading response papers

8% short papers

25% first midterm exam

25% second midterm exam

30% final exam

Class attendance and participation: You should come to class and participate in discussion, but the class is large enough that I won't check for this every day. Instead, participation in class activities and discussion will add to your grade, up to two-thirds of a letter grade. For example, a B could become an A–.

Reading response papers: Students will be responsible for writing five reading response papers during the term. Each should be about one typed page, stating the central thesis of the reading and explaining briefly what the author is trying to do. They should *not* mention everything from the reading, but should instead identify the key issue. These may be written for any five readings, but must be turned in *before* we have discussed the readings in class.

Short papers: Students will be responsible for writing two short papers (about 3 pages or 750 words) on assigned topics. They will be due Oct 9 and Nov 13.

Exams: There will be three exams. The final exam will be cumulative.

Academic honesty: Cheating will not be tolerated.

Absences: Students who will need to miss exam or due dates for foreseeable reasons should discuss them with the professor at the beginning of the term. If an emergency results in absence, the student should contact the professor as soon as possible.

Schedule of topics

This is a provisional and approximate schedule. I have indicated which readings we will discuss in each week, but even this might be nudged one way or another. I will always announce in class what we will be doing at the next meeting. In any case, exam dates and due dates will not change.

Week 1 sep 28: Introduction

sep 30, aug 1: How should you decide what to believe? [read Peirce]

Week 2 sep 6, 8

LABOUR DAY

kinds of inference [read notes on inference]

Week 3 sep 11, 13, 15

inference, continued

Demarcation [read Popper]

Week 4 sep 18, 20, 22

Norms of science [read Merton]

Observation and experiment [read Pinch, on externality]

Week 5 sep 25, 27, 29

observation, continued

review for exam

FIRST EXAM sep 29

Week 6 oct 2, 4, 6

SHORT PAPER DUE oct 2

The analogy between theories and maps [no reading]

Scientific expertise [read Collins+Pinch, on AIDS]

Week 7 oct 9, 11, 13

Scientific significance [read Kitcher]

Science and values [read Douglas ch 5]

Week 8 oct 16, 18, 20

science and values, continued

Values and objectivity [read Douglas ch 6]

Week 9 oct 23, 25, 27

Values and policy [read Douglas ch 7]

The value of free enquiry [read Mill]

Week 10 oct 30, nov 1, 3

free enquiry, continued

SECOND EXAM nov 3

Week 11 nov 6, 8, 10

SHORT PAPER DUE nov 6

Case study: genetics and IQ [read Gould]

Week 12 nov 13, 15, 17 case study, continued

Women in science [read on women in science]

Week 13 nov 20

Stereotype threat [read Miyake]

THANKSGIVING BREAK

Week 14 nov 27, 29, dec 1

The invisibility of women in science [read Oreskes]

Week 15 dec 4, 6, 8

— Topic to be announced —

Week 16 dec 11

Conclusion

Final Exam dec 18 8:00 AM