

# Understanding Science

Philosophy 218, Spring 2016

Tu Th 11:45–1:05

HU 124

**Professor:** P.D. Magnus

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Office hours: W noon–1:00, Th 1:15–2:15, and by appointment

**Texts:** All course readings will be available on Blackboard.

## Requirements and grading:

- 12% reading response papers
- 8% short papers
- 25% first midterm exam
- 25% second midterm exam
- 30% final exam

**Class participation:** Participation in class discussion is required. Exemplary participation 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) on assigned topics. These will be due Feb. 25 and Apr. 8.

**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 schedule. Specific readings may take more or less time than indicated, but exam dates and due dates will not change.

**Week 1** Jan 21 Introduction

**Week 2** Jan 26, 28 How should you decide what to believe? [read Peirce]

**Week 3** Feb 2, 4 kinds of inference [read notes on inference]  
Demarcation [read Popper]

**Week 4** Feb 9, 11  
Norms of science [read Merton]  
Observation and experiment [read Pinch, on externality]

**Week 5** Feb 16, 18  
FIRST EXAM Feb 18

**Week 6** Feb 23, 25  
SHORT PAPER DUE Feb 23  
The analogy between theories and maps [no reading]  
Scientific expertise [read Collins+Pinch, on AIDS]

**Week 7** Mar 1, 3  
How to figure out what the community thinks [read Magnus]  
Scientific significance [read Kitcher]

**Week 8** mar 8, 10

Science and values [read Douglas ch 5]

**Spring Break!**

**Week 9** mar 22, 24

Values and objectivity [read Douglas ch 6]

Values and policy [read Douglas ch 7]

**Week 10** mar 29, 31

SECOND EXAM mar 31

**Week 11** apr 5, 7

The value of free enquiry [read Mill]

**Week 12** apr 12, 14

SHORT PAPER DUE apr 12

Case study: genetics and IQ [read Gould]

**Week 13** apr 19, 21

Women in science [read on women in science]

Stereotype threat [read Miyake]

**Week 14** apr 26, 28

The invisibility of women in science [read Oreskes]

**Week 15** may 3

Conclusion

**Final Exam** Fr may 13 8:00–10:00 AM