

Fall 2005  
Philosophy of Science  
0122-403-01

Prof. David Stump  
Office CA room D5b  
Hours: W 10-12:30  
& by appointment  
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## Syllabus

What is science? Why is science accorded such high status in our culture? Is this high status deserved? We will critically examine the views conflicting interpretations of science. Major issues to be discussed include whether science can be considered value-free, whether there is one general scientific method that fits all kinds of science, how scientific knowledge is validated, the nature of scientific explanation, of scientific progress and of scientific revolutions.

TEXTS (available at the bookstore except for the material on reserve)

Byerly and Stevenson, *The Many Faces of Science*  
Kosso, *Reading the Book of Nature* (paper and electronic reserve in the library)  
Kuhn, *Structure of Scientific Revolutions*  
Latour, *Pasteurization of France*

### COURSE OBJECTIVES AND LEARNING OUTCOMES

By the end of the semester, you will be able to:

- 1) Demonstrate an ability to identify and articulate, both orally and in writing, the central philosophical issues found in classic texts in the philosophy of science.
- 2) Identify the primary philosophical themes and issues that define the philosophy of science.
- 3) Understand and be able to explain at least six basic philosophical problems, including the nature of definitions and meaning, the fact/value distinction, the problem of induction, the hypothetical deductive method, the nature of evidence and its reliability, objectivity Vs relativism, idealism Vs realism, the social and political implications of science and technology.

### REQUIREMENTS

Attendance at a philosophy colloquium series talk, plus writing an abstract. Weekly study questions, short in-class presentations and writing assignments, two midterms and two 3-4 page papers. Answers to study questions and in class assignments will count for 30% of the final grade, each midterm will count 15% of the final grade, and each paper will count 20% of the final grade. Missing or late assignments count as zero (0). Final letter grade will be determined on the basis of total points, not on average letter grades given on the assignments.

### EXAM AND PAPER DUE DATES

Answers to study questions are due every Tuesday unless otherwise stated in the assignment that is distributed for that week. In-class essay exams will take place on Thursdays, 9/15/05 and 10/27/05. Short papers will be due Thursday, 10/10/05 and Wednesday, 12/14/05 (the day of the scheduled final exam for this course). Papers are to be processed at turnitin.com. No Final Exam.

### ATTENDANCE

You are required to attend class for the full class period and to participate. Attendance at one talk in the Philosophy Department lecture series is also required. If you have more than two unexcused absences during the semester, each unexcused absence will reduce your final grade by

two percentage points. It is your responsibility to contact me promptly if you must miss part or all of a class.

MAKE-UP WORK

Serious illness, a major emergency in the family, and student activities that are official, required and unavoidable are the only reasons that will be accepted for missing class, an examination or turning in papers late. Written documentation may be requested for illness, etc. , and is always required for student events. Class participation cannot be made up. *A grade of incomplete (I) can be given only if at least 66% of the course work has been completed, even if all absences and missing work were caused by legitimate excuses.*

(over)

PAPER DUE DATES AND APPROXIMATE WEEKLY READINGS

R 8/25 Introduction; assign presentations, VIDEO

**Kosso**, *Reading the Book of Nature* (paper and electronic reserve in the library)

T 8/30 read pp. 1-26

R 9/1 read pp. 27-50

**Stevenson and Byerly**, *The Many Faces of Science*

T 9/6 presentations and discussion; read 1-37

R 9/8 discussion of values of science arguments

T 9/13 read rest of the book, prepare to discuss last chapter

R 9/15 Midterm Exam on Byerly and Kosso readings

**Kuhn**, *The Structure of Scientific Revolutions* (revised)

T 9/20 read 10-22

R 9/22 read 23-34

T 9/27 read 35-51

R 9/29 read 52-65

T 10/4 read 66-76

R 10/6 read 77-91

First short paper due 10/11/05

T 10/11 read 92-110

R 10/13 read 111-135

T 10/18 review; read 136-143

R 10/20 read 144-159

T 10/25 read 160-173 & 205-210

R 10/27 final discussion of Kuhn;

Midterm on Kuhn 10/27/05

**Latour**, *Pasteurization of France*

T 11/1 read 3-31

R 11/3

T 11/8 read 31-58

R 11/10

T 11/15 read 59-85

R 11/17

T 11/22 read 85-110

R 11/24 Thanksgiving, no class

T 11/29 111-150

R 12/1

T 12/6 Last Day of Classes

No Final Exam; Final Short paper due Wednesday, 12/14/05 (date of the scheduled final exam).

