

PHIL 370
Philosophy of Science
Fall 2008

Location: LANG 107
Time: MW 4:00-5:15 PM

Instructor: Prof. Zanja Yudell
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Office hours: M 1-3, T 1-5, W 10-noon

Course Description

The primary purpose of this course is to introduce students to the main ideas of philosophy of science, especially as they have been discussed in the twentieth century. The material will be organized both historically and thematically. The first part of the course concerns the philosophy of science of the first half of the twentieth century, as conceived by the Logical Positivists and Karl Popper. The second part of the course deals largely with broad attacks on that conception, particularly those of Kuhn and those he inspired. Finally, we will consider global warming as a case study on which to practice our understanding of the ideas previously learned.

Texts

Godfrey-Smith, Peter *Theory and Reality* (University of Chicago) (PGS)
Schick, Theodore *Readings in the Philosophy of Science* (Mayfield) (TS)
Kuhn, Thomas *The Structure of Scientific Revolutions* (University of Chicago) (TK)
Weart, Spencer *The Discovery of Global Warming* (Harvard) (SW)
An electronic course reader, available on Vista (R)

Grading

Reading questions	20%
Two short papers (~1250 words)	40% (20% each)
Three in-class exams	30% (10% each)
Take-home final exam	10%

Reading Questions

Reading questions will be posted on Vista prior to nearly every class. You will submit your response on Vista at least one hour prior to the beginning of class. The question will ask you to characterize some aspect of the reading assigned for that day. Occasionally you will be asked to give your opinion or assessment of an issue. In any event, your answer may be very short—one to two sentences will sometimes suffice, although

sometimes you will need a full paragraph. You will be given full credit (one point) if your answer represents a sincere attempt to answer the question and shows evidence of you having read the assignment, even if I think your answer is wrong. You may also receive a half point if there seems to be some effort, although it is clear that your effort was insufficient. The point of the reading questions is not to test your understanding of the material, but to give you some guidance in the reading and to check that you did engage with the material before class. There will be about 25 reading questions assigned, but you can earn no more than 20 points for reading question responses. You should at least look at every reading question, even if you choose not to respond to it, as they provide valuable study material.

Short papers

There are two short papers in this class. For each you will need to produce a philosophical argument responding to a question posed to you. Before each paper is due I will hand out a list of possible topics, as well as more detailed advice on how to write a philosophy paper. The first assignment will ask you to consider a challenge to a scientific belief of yours. The second assignment will require you to assess Kuhn's picture of science with respect to the history of scientific thinking about global warming as discussed in Weart's book.

In-class Exams

All the in-class exams will have a similar format. In each you will be given a small number of questions (about 6 for each exam) to answer. You will be able to choose to ignore at least one question for the exam. Answering the remaining questions will involve writing a paragraph or two in a blue book. The questions will be of varied type: most will ask you to explain a problem or concept that we have focused on in class; some will ask you to give an example and discuss it, others will ask a question that extends a concept we have learned to a novel situation.

Take-home Exam

The take-home exam will contain about ten questions asking you to apply concepts from class to Weart's book on global warming. You will have the opportunity to work on this exam in class and with your fellow students. More details will be given in the final weeks of class.

Grading Scale

93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+

73-76	C
70-72	C-
67-69	D+
60-66	D
0-59	F

Attendance

To do well in this course it is important that you attend every class session. You are responsible on the exams for what we talk about in class as well as what is in the readings. Arriving late to class is very disruptive to the learning environment. If there is poor attendance, the instructor may consider lowering grades for failure to attend.

Plagiarism

Plagiarism will not be tolerated in this course. If you are caught plagiarizing, you will receive zero credit for the assignment on which you plagiarized, and you may be reported to the Office of Student Judicial Affairs. If the offense is sufficiently grave, you will fail the course.

Schedule of readings and assignments

For PGS, TK and SW, numbers refer to chapter and section (if applicable). For TS, numbers refer to the number of the essay (not the “part”). Optional readings are noted with an asterisk. Note that although we will not be discussing SW until the fourteenth week of class, it is recommended that you begin reading the book on the schedule assigned below in order to have sufficient time to read it. It’s a long book, and you will have both an essay and an exam based on it.

	Date	Subject/Major assignments	Reading assignment
Monday	8/25	First day	No reading
Wednesday	8/27	Preliminaries	PGS 1.1-1.5
Monday	9/1	Labor Day-No Class	
Wednesday	9/3	Logical Positivism	PGS 2.1-2.3
Monday	9/8	Logical Positivism	TS 1
Wednesday	9/10	Logical Positivism	PGS 2.4, 2.5*, 2.6; TS 10; Quine(R) (Sec. I, V, VI)
Monday	9/15	Induction and Confirmation	PGS 3.1-3.2; TS 7
Wednesday	9/17	Induction and Confirmation	PGS 3.3; TS 8
Monday	9/22	Induction and Confirmation	PGS 3.4; Goodman (R)
Wednesday	9/24	First in-class exam	
Monday	9/29	Popper	PGS 4.1-4.2, 4.3*; TS 9, 2
Wednesday	10/1	Popper	PGS 4.4-4.6
Monday	10/6	Explanation	PGS 13.1-13.2; TS 12
Wednesday	10/8	Explanation	PGS 13.3; TS 13, 14, 15*

Friday	10/10	First paper due	
Monday	10/13	Reduction	TS 17
Wednesday	10/15	Reduction	TS 18
Monday	10/20	Kuhn	PGS 5.1-5.3; TK I, II, III*, IV*, V
Wednesday	10/22	Kuhn	PGS 10.3, 5.4-5.5; TK VI*, VII*, VIII
Monday	10/27	Kuhn	PGS 6.1-6.4; TK IX-X
Wednesday	10/29	Kuhn	PGS 6.5; TK XI*, XII, XIII
Monday	11/3	Second in-class exam	
Wednesday	11/5	Lakatos	PGS 7.1-7.2, 7.3*; TS 4; SW 1
Monday	11/10	Feyerabend	PGS 7.4-7.6, 7.7*; TS 39; SW 2
Wednesday	11/12	Sociology of Science	PGS 8.1-8.4; TS 27, 28*; Barnes and Bloor(R); SW 3
Monday	11/17	Feminist Philosophy of Science	PGS 9.1-9.4; Longino (R)
Wednesday	11/19	Scientific Realism	PGS 12.1-12.3; TS 33; SW 4
Monday	11/24	Thanksgiving break-No class	
Wednesday	11/26	Thanksgiving break-No class	
Monday	12/1	Scientific Realism	PGS 12.4-12.6; TS 34, 35
Wednesday	12/3	Case Study: Global warming	SW 5
Friday	12/5	Second paper due	
Monday	12/8	Case Study: Global warming	SW 6, 7
Wednesday	12/10	Case Study: Global warming	SW 8
Monday	12/15	Third in-class exam and take-home exam due 6:00-7:50 PM	