

PHILOSOPHY OF SCIENCE
PHL XXX
FALL/SPRING 2XXX
JAN. 9nd – MAY 2nd¹

Professor: Dr. Kevin J. Kukla

- MEETING TIME: TBA
- OFFICE: TBA
- OFFICE HOURS: TBA
- OFFICE PHONE: TBA
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Final Exam: TBA

Texts:

- *Introductory Readings in the Philosophy of Science (1998)* – Eds. E. D. Klemke, Robert Hollinger, David Wyss, Rudge, & A. David Kline. I will use the letters ‘PoS’ to refer to this text.
- *Science Rules: A Historical Introduction to Scientific Methods (2004)* – Ed. Peter Achinstein. I will use the letters ‘SR’ to refer to this text.
- *Philosophical Writing: An Introduction (1997)* – A.P. Martinich

Course Description

In this course we will be introduced to some of the basic issues in philosophy of science: What distinguishes science from pseudo-science? Is there a scientific method? If so, what is that method? What constitutes a scientific explanation? How are theory and observation related? How do hypotheses get confirmed? And how do values function in science?

¹This document was written in \LaTeX .

Evaluation

- 2 Exams: 40%
- Term Paper: 35%
- Short Writing Assignments: 15%
- Attendance & Participation: 10%

Attendance

You are allowed no more than 4 unexcused absences to be eligible for full participation/attendance consideration. Any undocumented absence beyond your fourth will result in 0% for your attendance/participation grade. Additionally, tardiness and sleeping in class is equivalent to an absence.

Participation

Students are expected to attend class prepared to discuss critically the assigned readings. If ever the class fails to prepare adequately for class, I reserve the right to administer a quiz for that day.

Grading Scale

- **A+** = 97 - 100%
- **A** = 93 - 96%
- **A-** = 90 - 92%
- **B+** = 87 - 89%
- **B** = 83 - 86%
- **B-** = 80 - 82%
- **C+** = 77 - 79%
- **C** = 73 - 76%
- **C-** = 70 - 72%
- **D+** = 67 - 69%
- **D** = 63 - 66%
- **D-** = 60 - 62%
- **F** = < 60%

Electronic Devices

All electronic devices must be turned off before class begins. If a student's electronic device sounds during class, the student will be counted absent for that day.

Disability Access

Students with disabilities should register with the Office of Disability Services, 205/348.4285. They should then provide the instructor with appropriate documentation and written requests regarding special accommodations. Students who wish to discuss such accommodations are invited to schedule appointments during the instructor's office hours.

Code of Misconduct

The Academic Misconduct Disciplinary Policy will be followed in the event of academic misconduct.

All students in attendance at the University of Alabama are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. Academic misconduct includes all acts of dishonesty in any academically related matter and any knowing or intentional help or attempt to help, or conspiracy to help, another student.

TENTATIVE READING SCHEDULE

WEEK	READING(S)	TOPIC
1	<p>HAN: <i>Philosophy of Science</i></p> <p>HAN: <i>Propositional Logic</i></p> <p>SR: <i>Introduction</i></p>	<p>What is Philosophy of Science? Propositional Logic</p>
2/3/4/5	<p>SR: <i>Descartes' Rationalism</i>, pp. 1 – 5; 9 – 47</p> <p><i>Newton's Inductivism</i>, pp. 69 – 123</p> <p><i>Hypothetico-Deductivism: Young and Whewell</i>, pp. 127 – 147</p> <p><i>Hypothetico-Deductivism: Mill vs. Whewell, and Popper</i>, pp. 173 – 248; 168 – 172</p>	<p>The Scientific Method: Historical Introduction EXAM 1 AT THE END OF THE 5th WEEK</p>
6/7/8	<p>Pos: <i>Science: Conjectures and Refutations</i>, Karl Popper</p> <p><i>What is Science?</i>, John Ziman</p> <p><i>Why Astrology is a Pseudoscience?</i>, Paul Thagard</p> <p><i>The Natural and the Human Science</i>, Thomas Kuhn</p> <p><i>If Economics Isn't Science, What is it?</i>, Alex Rosenberg</p>	<p>Science & Pseudo-Science</p>

TENTATIVE READING SCHEDULE (Continued)

WEEK	READING(S)	TOPIC
<p>9/10/11/SPRING BREAK)/12</p>	<p>Pos: <i>The Nature of Theories</i>, Rudolph Carnap <i>Observation</i>, N.R. Hanson <i>Hypothesis</i>, W.V.O. Quine <i>Justifying Scientific Theories</i>, Ronald Giere <i>Objectivity, Value Judgment and Theory Choice</i>, Thomas Kuhn</p>	<p>Confirmation EXAM 2 AT THE END OF WEEK 10</p>
<p>13/14/15</p>	<p>Pos: <i>Studies in the Logic of Explanation</i>, Carl Hempel <i>The Truth Doesn't Explain Much</i>, Nancy Cartwright <i>The Pragmatics of Explanation</i>, Bas van Fraassen <i>Explanatory Unification</i>, Philip Kitcher</p>	<p>Explanation</p>
<p>16/17</p>	<p>Pos: <i>The Scientist Qua Scientist Makes Value Judgments</i>, Richard Rudner <i>Science and Human Values</i>, Carl Hempel <i>Values in Science</i>, Ernan McMullin <i>The Feminism Question in Science</i>, Ronald Giere</p>	<p>Science & Values TERM PAPER IS DUE DURING FINALS WEEK</p>