

W3551 Philosophy of Science (Fall 2011)

Times: TR 2:40pm – 3:55pm Location: 716 Philosophy Hall

Readings

Philosophy of Science: An Anthology (Edited by Marc Lange)

Note: Lange's anthology is available at the CU bookstore. Additional readings, which are marked with a "*" symbol in the schedule, will be posted to Courseworks.

Grading

Short assignments (60%): Submit three of the four homework assignments. Each is worth 20% of your grade.

Final (40%):

Option 1 -- take-home exam

Option 2 -- term paper

Instructor information

Instructor: Jeffrey Helzner

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Office: 721 Philosophy Hall

Office hours: Fridays from 1:30pm to 2:30pm and by appointment

TA: Jon Lawhead

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Office hours: TBA

Policy on late assignments:

Late submissions will be penalized at the rate of one position per day on the following scale: A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F. For example, a paper that would have earned a B if submitted on time will, if handed in two days late, receive a C+. Exceptions to this policy are restricted to those situations in which I have a written excuse from a physician or your academic adviser.

Policy on cheating: I will not tolerate any form of cheating. If I catch you cheating, then I will do everything that I can to make sure that you receive the most severe punishment that is allowed at this institution.

I

- 9-6: Opening remarks
- 9-8: "Positivism and Realism" (Schlick) *
- 9-13: "The Operational Character of Scientific Concepts" (Bridgman) *
- 9-15: "Introduction to Part 1" (Lange)
"Empiricist Criteria of Cognitive Significance" (Hempel)

II

- 9-20: "Introduction to Part 2" (Lange)
"Studies in the Logic of Confirmation" (Hempel)

HW 1 is assigned on 9-20

- 9-22: "The Two Concepts of Probability" (Carnap) *
- 9-27: "Truth and Probability" (Ramsey) *

HW 1 is due on 9-27

- 9-29: "Confirmation and Relevance" (Salmon)
- 10-4: "Rationality and Objectivity in Science" (Salmon)
- 10-6: "Why I am not a Bayesian" (Glymour) *
"The New Riddle of Induction" (Goodman)
"The Problem of Induction" (Popper) *

HW 2 is assigned on 10-6

- 10-11: "Introduction to Part 3" (Lange)
"Let's Razor Ockham's Razor" (Sober)
- 10-13: "Objectivity, Value Judgment, and Theory Choice" (Kuhn)

HW 2 is due on 10-13

III

- 10-18: “Introduction to Part 4” (Lange)
“The Theoretician’s Dilemma” (Hempel)
- 10-20: “Phenomenalism” (Sellars)
“The Language of Theories” (Sellars)
- 10-25: “A Comparison of the Meaning and Uses of Models ...” (Suppes) *
“What is a Scientific Theory?” (Suppes) *
- 10-27: “Representational Measurement Theory” (Luce and Suppes) *
Excerpt from *Measuring the Mind* (Borsboom)
- 11-1: “Models, Theories, and Structures: Thirty Years On” (Da Costa and French) *
“A Model-Theoretic Account of Representation” (French) *
“Scientific Representation and the Semantic View of Theories” (Frigg) *
- 11-3: “Arguments Concerning Scientific Realism” (Van Fraassen)
“To Save the Phenomena” (Van Fraassen)

HW 3 is assigned on 11-3

- 11-8: Election Day - University Holiday
- 11-10: “Physical Theory and Experiment” (Duhem) *
“Two Dogmas of Empiricism” (Quine) *

HW 3 is due on 11-10

IV

- 11-15: “Introduction to Part 5” (Lange)
“Laws and Their Role in Scientific Explanation” (Hempel)
- 11-17: “Explanation and Scientific Understanding” (Friedman) *
“Explanatory Unification” (Kitcher) *
- 11-22: “The Pragmatic Theory of Explanation” (Van Fraassen) *
“Van Fraassen on Explanation” (Kitcher and Salmon) *
- 11-24: Thanksgiving Day - University Holiday

11-29: “The Laws of Nature” (Lewis)
“Humean Supervenience” (Lewis)

HW 4 is assigned on 11-29

12-1: “Laws of Nature” (Dretske)
“Who’s Afraid of *Ceteris-Paribus* Laws?” (Lange)

12-6: “The Division of Cognitive Labor” (Kitcher)

HW 4 is due on 12-6

12-8: Closing remarks

Take-home exam distributed on 12-8 and due during final exam week (tba) *

Term paper due on 12-8 **

* Relevant if you are selecting the exam option. The take-home exam will be due by the end the final-exam time for this course. These times should be posted within a few weeks. See the following page for details:

<http://registrar.columbia.edu/content/final-exam-schedule>

** Relevant if you are selecting the paper option.