

730 Philosophy 425 Sect 01 Philosophy of Science

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Rutgers The State University of New Jersey, Spring 2014, Tu & Th 2:50-4:10

Weeks 1, 2) Some Views of the Character of Science:

T. H. Huxley	The Method of Scientific Investigation
Ernst Mach	The Economical Nature of Physics
C.S. Peirce	The Fixation of Belief; How to Make Our Ideas Clear

Weeks 2, 3) Logic and Axiomatic Systems

Hermann Weyl	<i>Philosophy of Mathematics and Natural Science</i> (Chapter 1)
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Weeks 3, 4) The Problem of Induction:

David Hume	<i>An Enquiry Concerning Human Understanding</i> (Sections IV-VII)
Nelson Goodman	The New Riddle of Induction (in <i>Fact, Fiction and Forecast</i>)

Weeks 4, 5, 6) Evidence and Theory:

Karl Popper	Science: Conjectures and Refutations
Carl Hempel	Studies in the Logic of Confirmation
Henri Poincaré	Space and Geometry (in <i>Science and Hypothesis</i>)

Weeks 6, 7, 8) Observation, Theory, and Reality

Moritz Schlick	Positivism and Realism
Thomas Kuhn	<i>The Structure of Scientific Revolutions</i> (Chapter X)

Weeks 8, 9, 10, 11, 12) Generalizations, Laws, and Probabilities

Ernest Nagel	<i>The Structure of Science</i> (Chapter 4)
Frank Ramsey	Law and Causality
David Lewis	Counterfactual Dependence and Time's Arrow
Bertrand Russell	On the Notion of Cause

Weeks 13, 14) Explanation and The Unity of Science

Jerry Fodor	Special Sciences (or: The Disunity of Science as a Working Hypothesis)
David Albert	Physics, Chance, and Explanatory Unity

There will be two take-home exams. Final grade will be determined by quality of both written work and class participation.

Note: The university has directed that all syllabi make note of the existence of The Rutgers Self-Reporting Absence Website (<https://sims.rutgers.edu/ssra>), and of the request that it be utilized by students to indicate the date(s) and reason for their absence from class.