PHIL/HPS 93812 Spring 2020 Prof. Don Howard
HOPOS II 308 Malloy Hall
T-Th 2:00-3:15 Tel: 631-7547
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www3.nd.edu/~dhoward1/93812s20.html Office Hours: MW 12:30-1:30

Texts: Assigned readings will be distributed directly.

Requirements: There will be three components in the computation of your final grade for the course:

(1) ***Mid-term and Final Examinations*** (50 %). At mid-term and during final examination week, there will be in-class, essay examinations, each counting for 25% of the final grade. One week before each examination, a list of study questions will be distributed to assist you in preparing for the examination.
(2) ***Term Papers*** (40 %). Each student will be required to submit a final term paper, of a minimum of fifteen pages, on a topic to be worked out in consultation with the instructor.
(3) ***Class Participation*** (10 %). The remaining ten percent of your final grade will be determined on the basis of the quality and extent of your enthusiastic participation in the class.

One-minute Papers: Every class session will end a few minutes early to permit you to do a "one-minute paper," in which you will write no more than two- or three-sentence answers to two questions: (a) What was the most important point covered in today's class? (b) What issue or question was left most unclear in your mind at the end of today's class? These one minute papers will be required of every student at the end of every class session and will be collected at the end of class, but they will not be graded.

Schedule:

Date:	**Topic:**	**Readings:**
14 Jan.	Introduction	
16 Jan.	Newton	Isaac Newton, selections from the *Principia*, the *Optics*, and the correspondence; Colin MacLaurin, selections from *An Account of Sir Isaac Newton's Philosophical Discoveries*; I. Bernard Cohen, "Newton's Method and Newton's Style."
21 Jan.	Leibniz	Gottfried Wilhelm Leibniz, selections from the correspondence with Huygens and the *Dynamica*, "On the Principle of Indiscernibles," and selections from the Leibniz-Clarke correspondence.
23 Jan.		
28 Jan.	Reid	Thomas Reid, selections from *Essays on the Intellectual Powers of Man*; Manfred Kuehn, "The Nature of Scottish Common-Sense Philosophy."
30 Jan.		
04 Feb.	Kant	Immanuel Kant, "On the First Ground of the Distinction of Regions in Space," selections from the *Inaugural Dissertation* and the *Prolegomena*, the "Transcendental Aesthetic," "Analogies of Experience," and the first and second antinomies from the first *Critique*, and the Preface and "Phenomenology" chapter from the *Metaphysical Foundations of Natural Science*.
06 Feb.		
11 Feb.		

13 Feb.		Gordon Brittan, "Kant and Newton"; Michael Friedman, "The Metaphysical Foundations of Newtonian Science."
18 Feb.	Comte	Auguste Comte, "The Nature and Importance of the Positive Philosophy."
20 Feb. 25 Feb.	Whewell, Herschel, and Mill	William Whewell, "On The Nature of the Truth of the Laws of Motion"; Menachem Fisch, Ch. 1 from *William Whewell: Philosopher of Science*; John Herschel, selections from *A Preliminary Discourse on the Study of Natural Philosophy*; John Stuart Mill, selections from *A System of Logic*.
27 Feb. 03 Mar.	The Scots School and Hertz	Albert Einstein, "Maxwell's Influence on the Development of the Conception of Physical Reality," Richard Olson, "Culmination of the Tradition: Metaphysics and Method in the Works of James Clerk Maxwell," Heinrich Hertz, selections, *Principles of Mechanics*.
05 Mar.	***Mid-term Examination***	
09-13 Mar.	***Spring Break***	
17 Mar. 19 Mar.	The Semantic Approach and *Bildtheorie*	Hermann von Helmholtz, "The Facts of Perception," preface, *Principles of Mechanics*; Hertz, selections, *Principles of Mechanics*; Jean Leroux, "'Picture Theories' as Forerunners of the Semantic Approach to Scientific Theories"; Michael Heidelberger, "From Helmholtz's Philosophy of Science to Hertz's Picture Theory."
24 Mar. 26 Mar.	The Lübeck Controversy	Ludwig Boltzmann, "On the Question of the Objective Existence of Processes in Inanimate Nature," Robert Deltete, "Helm and Boltzmann," Stephen Brush, "Ludwig Boltzmann and the Foundations of Natural Science"; Ernst Cassirer, Introduction and "The Goal and Methods of Theoretical Physics" from *The Problem of Knowledge*.
31 Mar. 02 Apr.	Marburg Neo-Kantianism	Hermann Cohen, introduction to Lange's *History of Materialism*: "The Relationship between Logic and Physics"; Cassirer, "Hermann Cohen and the Renewal of Kantian Philosophy"; Michael Friedman, "Ernst Cassirer and Contemporary Philosophy of Science."
07 Apr. 09 Apr.	Mach	Ernst Mach, "Physiological Space in Contrast with Metrical Space," from *Knowledge and Error*; "Introductory Remarks: Antimetaphysical," from *The Analysis of Sensations*; "The Guiding Principles of My Scientific Theory of Knowledge and Its Reception by My Contemporaries"; "Newton's Views on Time, Space, and Motion," *The Science of Mechanics*.
14 Apr. 16 Apr.	Duhem	Pierre Duhem, "Physical Theory and Metaphysical Explanation," "Abstract Theories and Mechanical Models," and "Physical Theory and Experiment," from *The Aim and Structure of Physical Theory*.

21 Apr. 23 Apr.	Poincaré	Henri Poincaré, "Non-Euclidean Geometries," "Space and Geometry," "Experiment and Geometry," "The Classical Mechanics," and "Hypotheses in Physics," from *Science and Hypothesis*.
28 Apr.	Meyerson	Émile Meyerson, "Preface," *Identity and Reality*; Chapter 1, *Explanation in the Sciences*; Tony Mills, "Explicating Meyerson: The Critique of Positivism and Historical Épistémologie."
7 May	***Final Examination***	10:30 AM - 12:30 PM
11 May	***Term Papers Due***	