

PHIL/HPS 588  
History of the Philosophy of Science,  
1750-1900  
MW 1:30-2:45  
329 DeBartolo

Spring 2002

Prof. Don Howard  
100 Malloy Hall  
Tel: 631-7547/-5015  
Don.A.Howard.43@nd.edu  
Office Hours: TTh 1:00-2:00

**Texts:** The assigned readings will be made available in the form of a course packet at the Copy Shop at LaFortune Student Center (packet #42).

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

(1) **Mid-term and Final Examinations** (45 %). At mid-term and during final examination week, there will be in-class, essay examinations, each counting for 22.5% 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** (45 %). 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 (excepting the day of the mid-term examination) will end a few minutes early to permit you to write a so-called “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.

#### **Tentative Schedule:**

<b>Date:</b>	<b>Topic:</b>	<b>Readings:</b>
16 Jan.	Introductory Lecture	
21 Jan.	Newton	Isaac Newton, Selections from the <i>Principia</i> , the <i>Optics</i> , and the correspondence; Colin MacLaurin, Selections from <i>An Account of Sir Isaac Newton’s Philosophical Discoveries</i> ; I. Bernard Cohen, “Newton’s Method and Newton’s Style”; Ernan McMullin, “Newton: Deducing from the Phenomena.”
23 Jan.		
28 Jan.	Berkeley	George Berkeley, Selections from <i>The Principles of Human Knowledge</i> and <i>De Motu</i> ; Karl Popper, “A Note on Berkeley as Precursor of Mach and Einstein”; J.O. Urmson, “Berkeley’s Philosophy of Science in the <i>Siris</i> ”; Gabriel Moked, “Two Central Issues in Bishop Berkeley’s ‘Corpuscularian Philosophy’ in the <i>Siris</i> .”
30 Jan.		
4 Feb.	Hume	David Hume, Selections from <i>A Treatise of Human Nature</i> ; Alexander Rosenberg, “Hume and the Philosophy of Science.”
6 Feb.		
11 Feb.	Reid	Thomas Reid, Selections from <i>Essays on the Intellectual Powers of Man</i> ; Paul Wood, “Reid on Hypotheses and the Ether: A Reassessment.”
13 Feb.		

18 Feb.	Kant	Immanuel Kant, The Preface to <i>Metaphysical Foundations of Natural Science</i> ; Gordon Brittan, “Kant and Newton”; Robert Butts, “The Methodological Structure of Kant’s Metaphysics of Science”; Michael Friedman, “Causal Laws and the Foundations of Natural Science”; Karl Ameriks, “Kant on Science and Common Knowledge.”
20 Feb.		
25 Feb.		
27 Feb.	Comte	Auguste Comte, “The Nature and Importance of the Positive Philosophy”; Larry Laudan, “Towards a Reassessment of Comte’s Philosophy.”
4 Mar.		
6 Mar.	<b>Mid-term Examination</b>	
11,13 Mar.	<b>Spring Break</b>	
18 Mar.	Herschel, Whewell, and Mill	John Herschel, Selections from <i>A Preliminary Discourse on the Study of Natural Philosophy</i> ; John Stuart Mill, Selections from <i>A System of Logic</i> ; Peter Achinstein, “Hypotheses, Probability and Waves”; Laura Snyder, “The Mill-Whewell Debate: Much Ado about Induction.”
20 Mar.		
25 Mar.	The Scots School	Richard Olson, “Culmination of the Tradition: Metaphysics and Method in the Works of James Clerk Maxwell.”
27 Mar.		
1 Apr.	Helmholtz	Hermann von Helmholtz, “The Facts of Perception”; Michael Heidelberger, “Force, Law, and Experiment: The Evolution of Helmholtz’s Philosophy of Science.”
3 Apr.	Mach	Ernst Mach, “Introductory Remarks: Antimetaphysical,” from <i>The Analysis of Sensations</i> , and “The Guiding Principles of My Scientific Theory of Knowledge and Its Reception by My Contemporaries.”
8 Apr.		
10 Apr.	Hertz and Boltzmann	Ludwig Boltzmann, “On the Question of the Objective Existence of Processes in Inanimate Nature.”
15 Apr.		
17 Apr.	Duhem	Pierre Duhem, “Physical Theory and Experiment,” from <i>The Aim and Structure of Physical Theory</i> .
22 Apr.		
24 Apr.	Poincaré	Henri Poincaré, Introduction, Preface, and “Experiment and Geometry,” from <i>Science and Hypothesis</i> .
29 Apr.		
1 May		
6 May	<b>Term Papers Due (Mon., 5:00 PM)</b>	
9 May	<b>Final Examination (Th., 8:00 AM)</b>	