PHIL/HPS 588

History of the Philosophy of Science, from the Scientific Revolution to 1900 Spring 2004

Prof. Don Howard

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Office Hours: T 3:15-4:15 F 2:00-3:00

Texts: The assigned readings will be made available in the form of a course packet at the Copy Shop at LaFortune Student Center (packet #156).

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

(1) *Final Examination* (40 %). A take-home, final examination will be handed out on the last day of class and will be due at the end of examination week.

(2) *Term Papers* (50%). 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 instructors.

(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 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:

Date:	Topic:	Readings:
13 Jan.	Introductory Lecture and Discussion	
15 Jan.	Descartes	René Descartes, Meditations on First Philosophy; Principles of Philosophy, Part II, Principles 1-42.
20 Jan.		
22 Jan.	Newton	Isaac Newton, Selections from <i>De Gravitatione et Æquipondio Fluidorum</i> , the <i>Principia</i> , the <i>Optics</i> , and the correspondence.
27 Jan.		
29 Jan.	Locke	John Locke, Selections from <i>An Essay Concerning Human Understand-</i> <i>ing</i> , 2 nd ed., Book II, Chs. 1-8, 13, and 27.

TTh 2:00-3:15 334 DeBartolo

3 Feb.		
5 Feb.	Leibniz	Gottfried Wilhelm Leibniz, selections from the correspondence with Huygens and the <i>Dynamica</i> , "On the Principle of Indiscernibles," and selections from the <i>Nouveaux Essais</i> and the Leibniz-Clarke correspondence.
10 Feb.		
12 Feb.	Hume	David Hume, Selections from A Treatise of Human Nature.
17 Feb.	Reid	Thomas Reid, Selections from Essays on the Intellectual Powers of Man.
19 Feb.	Kant	Immanuel Kant, "On the First Ground of the Distinction of Regions in Space," selections from the <i>Inaugural Dissertation</i> and the <i>Prolegomena</i> , the "Transcendental Aesthetic," "Analogies of Experience," and the first and second antinomies from the first <i>Critique</i> , and the Preface and "Phenomenology" chapter from the <i>Metaphysical Foundations of Natural</i> <i>Science</i> .
24 Feb.		
26 Feb.		
2 Mar.	Whewell, Herschel, and Mill	William Whewell, "On The Nature of the Truth of the Laws of Motion"; Menachem Fisch, Ch. 1 from <i>William Whewell: Philosopher of Science</i> ; John Herschel, Selections from <i>A Preliminary Discourse on the Study of</i> <i>Natural Philosophy</i> ; John Stuart Mill, Selections from <i>A System of Logic</i> .
4 Mar.		
9,11 Mar.	Spring Break	
16 Mar.	Comte	Auguste Comte, "The Nature and Importance of the Positive Philosophy."
18 Mar.	The Scots School	Richard Olson, "Culmination of the Tradition: Metaphysics and Method in the Works of James Clerk Maxwell."
23 Mar.	Helmholtz	Hermann von Helmholtz, "The Facts of Perception" and "On the Origins and Significance of the Axioms of Geometry."
25 Mar.		
30 Mar.	Mach	Ernst Mach, "Introductory Remarks: Antimetaphysical," from <i>The</i> <i>Analysis of Sensations</i> , and ""The Guiding Principles of My Scientific Theory of Knowledge and Its Reception by My Contemporaries."
1 Apr.		

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6 Apr.	Hertz and Boltzmann	Heinrich Hertz, Preface to the <i>Principles of Mechanics</i> ; Ludwig Boltz- mann, "On the Question of the Objective Existence of Processes in Inanimate Nature" and "On the Development of the Methods of Theoretical Physics in Recent Times."
8 Apr.		
13 Apr.	Duhem	Pierre Duhem, "Physical Theory and Experiment," from <i>The Aim and</i> Structure of Physical Theory.
15 Apr.		
20 Apr.	Poincaré	Henri Poincaré, Introduction, Preface, "Non-Euclidean Geometries," "Space and Geometry," and "Experiment and Geometry," from <i>Science</i> and Hypothesis.
22 Apr.		
27 Apr.		
29 Apr.		
3 May	Term Papers Due (Mon., 5:00 PM)	
7 May	Final Examination (Fri., 8:00 AM)	