PROGRAM IN HISTORY AND PHILOSOPHY OF SCIENCE COURSE DESCRIPTIONS FALL 2010

HPS 83100

HPS Colloquium  T 4:15pm–5:30pm (Howard)
1 Credit Hour
Graduate Students Only
Group Discussion by the HPS faculty and students of a prominent recent work in the field of HPS and research presentations by visiting scholars.

HPS 83801

Philosophy of Science  TR 2:00pm–3:15pm (Howard)
3 credit hours
Crosslist: PHIL 83801
Graduate Students Only
A survey of major problems, movements, and thinkers in twentieth-century philosophy of science. The course begins with a look at the historical background to logical empiricism, its rise to prominence, and its early critics, such as Popper. After a study of major problems in the neo-positivist tradition, such as confirmation, explanation, and the nature of scientific laws, historicist critiques of neo-positivism, chiefly Kuhn’s will be studied next, followed by a consideration of the realism-instrumentalism debate. The course concludes with a brief look at new perspectives, such as social constructivism and feminist philosophy of science.

Requirements: Students will write mid-term and final essay examinations and a fifteen-page term paper on a topic to be chosen in consultation with the instructor.

HPS 93624

From Baghdad to Cordova: A History of Islamic Science  MW 11:45am–1:00pm (Mirza)
3 credit hours
Crosslist: MELC 60055/40080
Graduate Students Only
Scientists in the era of classical Islam are credited with numerous advances in fields such as mathematics, astronomy, optics, medicine, and philosophy. This course investigates the extent and significance of such contributions to world intellectual history. Our point of departure will be the translation movement from Greek into Arabic with a survey of the Hellenistic heritage in Islam. Along with examining methods and landmark achievements, we will also look at elements of classical Islamic culture – ideas and institutions – that inspired and propelled scientific activity. Attention will be paid to competing theories for the “rise and decline” of science in the Islamic world, as well as its influence on Europe.
British & American Intellectual History  T  3:30pm–6:00pm (Turner)
3 credit hours
Crosslist: HIST 93656
Graduate Students Only
Readings in selected topics in British-American intellectual history from the later
seventeenth century to the early twentieth. ‘British-American intellectual history,’ as
used here, comprises discourses common to Britain and anglophone North
America. This concentration does not preclude occasional French or German
voices. Subjects might include sensationalist psychology, Newtonian physics,
republicanism, Scottish common-sense philosophy, evangelical reform movements,
political economy, Romantic metaphysics, feminism, Darwinian biology, religious
unbelief, quantum mechanics, and ‘mass culture.’ But ‘British-American intellectual
history’ excludes topics widely discussed only on one side of the Atlantic: a policy that
eliminates important regional cultures (notably the American South, Ireland, and
Scotland except as participants in larger discourses) and major topics (such as African-
American nationalism, Benthamite utilitarianism except as refracted through J. S. Mill,
and philosophic pragmatism). We will focus on problems that were nodes of change
rather than attempt an even-handed survey, impossible anyway in one
semester. Besides discussion of common assigned readings, the work of the course will
include papers, the character of which can vary with student needs, including the
possibility of writing a seminar paper in either British or American intellectual history or
both.

Politics of Science  TR  12:30pm–1:45pm (Mirowski)
3 credit hours
Graduate Students Only
This course examines the increasing politicization of science, and the escalation of the
enrollment of science in political controversies over the past century. Starting out with
brief characterizations of major political theories such as liberalism, communitarianism,
republicanism and neoliberalism, we then turn to the origins of the conviction that
science was inherently ‘apolitical’ rooted in the 1930s-50s in the philosophy, sociology
and history of science, and in popular culture. The purported alliance of science with
democratic structures is considered. Political controversies over Nazi science, Soviet
science, atomic war and Cold war science are surveyed, followed by more recent
controversies over the so-called ‘Science Wars’, the treatment of expertise, Foucault,
feminism, and actor-network theory. The economics of science movement is treated as a
reaction to the above. We then turn from theory to description of modern incidents of
the relationship of science to politics, beginning with surveys of the history of science
policy, controversies over biotechnology, global warming, intellectual property, the
pharmaceuticals industry, and attempts by international agencies and NGOs to regulate
the international diffusion of science.

Requirements: No prerequisites in politics required.

Readings: Mark Brown, Science in Democracy; May & Susan Sell, Intellectual
Property Rights: a critical history, Thomas McGarity and Wendy Wagner, Bending
Science, Philip Mirowski, ScienceMart TM

HPS 93825
Philosophy of Science & Public Policy  M 6:00pm–8:30pm (Shrader-Frechette)
3 credit hours
Crosslist: PHIL 93825
Graduate Students Only
This course will (1) introduce students to classic readings in philosophy of science (by Carnap, Cranor, Hempel, Kitcher, Kuhn, Laudan, Longino, Machamer, Mayo, Schaffner, Scriven, Woodward, and others, and (2) provide an overview and analysis of different accounts of scientific explanation (e.g., deductive-nomological, mechanistic, unificationist, counterfactualist, etc.). It also will (3) investigate the role of epistemic and ethical values in contemporary science and how these values affect both scientific method and science-based policy. Finally, the course will (4) show how misuse of scientific method -- and ignoring classic philosophy-of-science insights -- causes flawed science and flawed science-based, public policy. Case studies will come from contemporary policy-disputes in ecology, epidemiology, hydrogeology, and toxicology. These case studies will assess the validity of scientific methods used to assess theory choice in science, including theory choices about climate change, pollution-induced deaths, species losses, and nuclear accidents.

The main course work will be students’ continually revising a short course paper, whose topic is chosen by the student. This will enable the eventual paper, after 3-4 revisions-with-comments, to be in near-publishable form. Students will also do very short comments on the papers of others. For more information, see syllabi at www.nd.edu/~kshrader/courses/http://www.nd.edu/~kshrader/courses/ and http://www.nd.edu/~7Ekshrader/courses/

HPS 78599
Thesis Direction  (Howard)
Thesis direction for terminating Master’s students.

HPS 78600
Nonresident Thesis Direction
Nonresident Thesis Direction

HPS 96697
Directed Readings
SectionProfessor 01 Sloan 02 Crowe 03 Jauernig 04 Shrader-Frechette 05 Manier 06 Goulding 07 Mirowski 08 Hamlin 09 Stapel ford 10 Ramsey 11 Joy 12 Turner 13 Howard 14 Bigi 15 Ashley 16 Fox 17 Gutting 18 Kourany 19 Brading 20 McKim 21 Coleman 22 Staff

HPS 98699
Research and Dissertation  (Howard)
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HPS 98700
Nonresident Dissertation Research  (Howard)
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