

Introduction to Science and Society
HIST UA 94-001 and IDSEM-UG 1878-001
Prof. Myles W. Jackson
NYU-CAS-History and NYU-Gallatin
GCASL 369
Spring 2016
Mondays and Wednesdays: 3:30-4:45 pm

The goal of this course is to provide a background to the plethora of techniques proffered by the humanities and social sciences in studying the history of science, technology, and medicine. This course will include lectures, student presentations, and lively discussions.

Although this course covers a plethora of disciplines and their methodologies, students are encouraged to see how various tools from one field can be fruitfully applied to another. Topics include: Christian Aristotelianism, the rise of experimentation and the Scientific Revolution, Enlightenment Science, Darwin's theory of evolution and the church, eugenics in 20th-century America, machines and humans during the 19th and 20th centuries, historical explanations of disease, gene patenting, race and genes, and the history of HIV/AIDS.

In short this course, which should be taken early on in the Science-and-Society minor, will not only offer an intellectual map for students to plan and craft their own individual program, it also invites students to think synthetically, organically, and creatively on how various disciplines can be brought together with a view to elucidate the scientific, technological, and medical enterprises.

Goals:

- *To understand the historical relationships between socio-cultural context and the natural sciences
- *To appreciate the social, economic, political, and ethical implications of the natural sciences
- *To read critically and carefully primary and secondary literature
- *To develop writing skills relevant to the socio-cultural and political aspects of the natural sciences

Exams may only be missed due to illness (you will need a physician's note) or personal/family tragedies (accompanied by an official note to that effect). The same is also true of paper deadlines. Otherwise, you will receive a zero (0) for that exam or paper.

Note that cheating will be punished to the fullest extent possible under NYU-CAS guidelines. See <http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html>.

Week 1 (1/25):

M: Introduction to Course, Mechanics, and Requirements

W: Plato and Aristotle. Reading: Lindberg, pp. 46-68 and 111-131, <http://plato.stanford.edu/entries/aristotle-causality/#FouCau> (Aristotle's Four Causes).

Week 2 (2/1):

M: Medieval Universities and Christian Aristotelianism. Reading: Lindberg, pp. 183-244 and Debus, pp. 1-15 (on electronic reserve on NYU classes).

W: Introduction to the Scientific Revolution and Scientific Instruments. Reading: Steven Shapin, *The Scientific Revolution*, pp. 15-64 (on electronic reserve on NYU classes).

Week 3 (2/8):

M: Social History and the Scientific Revolution, Steven Shapin, "The House of Experiment," *The Science Studies Reader*, ed. by Mario Biagioli, pp. 479-504 (on electronic reserve on NYU classes).

W: Enlightenment Science and Natural History, Linnaeus. Reading: Hankins, excerpt from *Science and the Enlightenment* (on electronic reserve on NYU classes) and Lisbet Körner, "Women and utility in the Enlightenment," available at <http://muse.jhu.edu/journals/configurations/v003/3.2koerner.html>

Week 4 (2/15):

M: No Class President's Day

W: Charles Darwin, Evolution and the Church. Reading: <http://history.hanover.edu/courses/excerpts/111dar.html> (excerpts from Darwin's *On the Origin of Species*, 1859), W. Coleman, *Biology in the Nineteenth Century*, pp. 57-117 (text on electronic reserve on NYU classes) and <http://www.law.umkc.edu/faculty/projects/ftrials/scopes/evolut.htm>

Week 5 (2/22):

M: Social Darwinism and Introduction to Eugenics. Reading: Diane Paul, *Controlling Human Heredity*, pp. 1-49.

W: **Examination One**

Week 6 (2/29):

M: Eugenics in the United States. Reading: Diane Paul, *Controlling Human Heredity*, pp. 50-113.

W: Human Genome Project, I. Reading: Hood and Kevles, eds., *The Code of Codes*, Chapters 1, 3, and 5

Week 7 (3/7):

M: Human Genome Project, II. Genetic Essentialism and Genetic Privacy. Reading: *ibid.*, Chapters 8, 9, 11, 12 and 13.

W: The Nazi Atomic Bomb Project. Reading: Walker, *Nazi Science*, pp. 183-206.

Spring Break (3/14)

Week 8 (3/21):

M: The American Atomic Bomb Project. Reading: Kevles, *The Physicists*, pp. 287-348.

W: Comparing and contrasting the Atomic Bomb Projects. Discussion. Reading: Kevles, *The Physicists*, pp. 349-392.

Week 9 (3/28):

M: The Hydrogen Bomb. Reading: Galison and Bernstein: "In Any Light" available at <http://www.jstor.org/stable/27757627>

W: **Examination Two**

Week 10 (4/4):

M: History of Epidemics in the U.S. I. Reading: Charles Rosenberg. *Explaining Epidemics*, chapters 5-7.

W: History of Epidemics in the U.S. II. Reading: *Ibid.*, chapters 8-10.

Week 11(4/11):

M: Movie: "Super Bomb Documentary: Ultimate Weapon: The H-Bomb," GMG Films.

W: No Class

Week 12 (4/18):

M: Gene Patenting: BRCA 1 and 2 gene patents. Reading: Shobita Parthasarathy, *Building Genetic Medicine*, chapters 2 and 3

W: The Biology of Race, Part I. Troy Duster, “Race and Reification“ and “Lessons from History: Why Race and Ethnicity Have Played A Major Role in Biomedical Research,” Pamela Sankar and Jonathan Kahn, “BiDil: Race Medicine or Race Marketing?” and Rick Carson, “The Case of BiDil: Policy Commentary on Race and Genetics”

Week 13 (4/25):

M: The Biology of Race, Part II. Reading: Duana Fullwiley, “The Molecularization of Race” (on electronic reserve)
 W: HIV/AIDS, I. Reading: Epstein, *Impure Science*, pp. 45-78 (optional: lecture at NYU-Langone, Division of Biomedical Ethics at 1 pm)

Week 14 (5/2):

M: HIV/AIDS, II. Reading: Epstein, *Impure Science*, pp. 79-150.
 W: HIV/AIDS, III. HIV, Genes, Patents, and Race. Reading: Myles W. Jackson, *The Genealogy of a Gene*, chapters 1 and epilogue.

Week 14: (5/9)

M: Paper due in class.

Grading:

Two examinations, 30% each= 60%
One Paper, 5 pages in length, 30%
Class Participation in discussions = 10%

Office hours and relevant information:

Myles W. Jackson, Ph.D., Albert Gallatin Research Excellence Professor of the History of Science; Professor of History, Faculty of Arts and Science; Professor of Medical Ethics, NYU-Langone School of Medicine; and Director of Science and Society;

Office Hours: NYU-Gallatin, 1 Washington Place, Room 405, x88488
 Monday and Wednesday from 1:30 to 3 pm or by appointment

Required Texts:

Steven Epstein, *Impure Science: AIDS, Activism, and the Politics of Knowledge*. Berkeley and Los Angeles: University of California Press, 1996.

Leroy E. Hood and Daniel J. Kevles, eds. *The Code of Codes: Science and Social Issues in the Human Genome Project*, Cambridge, MA: Harvard University Press, 1992.

Myles W. Jackson, *The Genealogy of a Gene: HIV/Patents, and Race*. MIT Press, 2015.

Daniel Kevles, *The Physicists: The History of a Scientific Community in America* (Harvard University Press, 1995)

David C. Lindberg, *The Beginnings of Western Science: The European Scientific Tradition in Philosophical, Religious, and Institutional Context, Prehistory to A.D. 1450*. Chicago: University of Chicago Press, 2007

Diane M. Paul, *Controlling Human Heredity: 1865 to the Present*. Amherst, NY: Humanity Books, 1998

Shobita Parthasarathy, *Building Genetic Medicine*, MIT Press, 2012.

Mark Walker, *Nazi Science: Myth, Truth, and the Nazi Atomic Bomb* (Perseus 1995).

Charles Rosenberg. *Explaining Epidemics and Other Studies in the History of Medicine*. NY: Cambridge University Press, 1992.