

**COLQ-25-01 SCIENCE & COURTS
Fall 2007**

Syllabus

Converse 304
W-F: 8:30AM-9:50AM

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Office Hours: Wed: 10-noon; Thurs: noon-2pm; or by appointment

COURSE DESCRIPTION

Science and law are two powerful social institutions, central to our understandings of truth and justice. This course analyzes their intersections in American society, with special attention to a few key topics: the rules of demarcation that courts have used to distinguish between scientific and pseudo-scientific evidence; the translation of raw data into legally relevant testimony; the performance and deconstruction of expertise on the witness stand; the changes in the criminal justice system brought about by DNA forensics and the neurosciences; and the historical role of courts in dealing with “creationism” and “intelligent design.” We will analyze in detail some landmark cases and judicial decisions, courtroom performances, and the sociological and anthropological literature on the juncture of scientific knowledge and legal process.

EVALUATION

Analytical Assignments (75%)

This is a discussion- and reading-intensive seminar. Students are expected to write **3 short analytical essays** (4-6 pages double-space) during the course, and **1 final research paper** (around 12-14 pages) to be submitted on the last day of classes.

- The three short analytical essays will be responses to questions presented by the instructor; students must formulate a response based on the readings and discussions of the class.
- The topic for the final research paper is free. The essay must explore *in some depth* one or several themes addressed in class. It must offer a reasoned and structured argument, and it must include some *original research* (sources and materials beyond the course syllabus). The research paper is due the last week of classes (December 12), but a draft outline of the paper – including a working thesis, and tentative structure and some of the sources the student plans to use must be submitted by November 16. Each short essay will represent 15% of the final grade. The research paper will account for 30%.

Attendance and Class Participation (25%)

Students are expected to attend all classes and *be prepared to discuss the readings*. Multiple absences or habitual lateness will lower your final grade. Regular, punctual, and *active* presence is absolutely essential.

***** Statement of Academic Integrity *****

Please review the College's Statement of Intellectual Responsibility:
https://cms.amherst.edu/academiclife/dean_faculty/policiesprocedures/sir
as well as the information on academic honesty and plagiarism:
<http://www.amherst.edu/~dos/plagiarism/>

In writing the analytical assignments it is essential that you reference your sources and attribute quotes and ideas to their authors. If in doubt about the applicability of these norms, please ask.

SCHEDULE OF TOPICS AND READINGS

9/5 Organizational meeting

- Reading: Jeffrey Rosen, "Roberts v. The Future," *The New York Times Magazine*, 28 August 2005.

1 WHAT IS SCIENCE?

9/7 Traditional conceptions: (how) is science different?

- Karl Popper, "Science as Falsification", in *Conjectures and Refutations*, London: Routledge and Keagan Paul, 1963, pp. 33-39; from Theodore Schick, ed., *Readings in the Philosophy of Science*, Mountain View, CA: Mayfield Publishing Company (2000), pp. 9-13.
- Robert K. Merton, "The normative structure of science", in Robert Merton, *The Sociology of Science* (Chicago: University of Chicago Press, 1973), pp. 267-278.

9/12 "Science" and boundary-work

- Thomas F. Gieryn, "Boundary-work and the demarcation of science from non-science", *American Sociological Review*, 48 (1983), 781-795.

2. RULES OF ADMISSIBILITY

9/14 The Frye rule

- [Court Decision] *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923)
- Philip Hiall Dixon, "Frye Standard of 'General Acceptance' for Admissibility of Scientific Evidence Rejected in Favor of Balancing Test," *Cornell Law Review* 64 (1979), 875-885.

9/19 "Junk Science" in the courtroom?

- Peter Huber, *Galileo's Revenge: Junk Science in the Courtroom* (Basic Books, 1993): chapter 1, 3, 7 & 11.

9/21 The Daubert Rules

- [Court Decision] *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993)

- Susan Haack, (2005) “Trial and error: The Supreme Court's philosophy of science,” *American Journal of Public Health* 95 (S1): 66-73.

3. FORENSICS, GUILT & INNOCENCE

9/26 Framing “raw evidence”: the Rodney King case [first analytical essay due]

- David Goodwin, “Professional Vision” *American Anthropologist* 96(3): 606-33.

9/28 Fingerprinting

- Simon Cole, “Fingerprinting: The First Junk Science?”, *Oklahoma City Law Review* Vol. 28, Number 1 (Spring 2003), pp. 73-92.
- Recommended: Simon Cole, *Suspect Identities: A History of Fingerprinting and Criminal Identification* (Harvard University Press, 2001)

10/3 DNA: Introduction

- Saul Halfon, “Collecting, Testing and Convincing: Forensic DNA Experts in the Courts,” *Social Studies of Science* 28 (1998): 801-828
- Jennifer L. Mnookin, “Fingerprint Evidence In An Age of DNA Profiling” *Brooklyn Law Review* 13, 28 (2001)

10/5 DNA under challenge: The O.J. Simpson case

- Reading: William C. Thompson, “DNA evidence in the O.J. Simpson trial,” *University of Colorado Law Review*, 67 (1996), 827-857.
- Film: ‘The O.J. Verdict’

10/10 The Innocence Project (I)

- B. Scheck, P. Neufeld and J. Dwyer, *Actual Innocence*, chapters 1, 4 & 7.
- Peter J. Boyer, “DNA on Trial,” *The New Yorker*, January 17, 2000.

10/12 The Innocence Project (III)

- Film screening: ‘*After Innocence*’

10/17 Anything wrong with DNA evidence?

- Donald Kennedy, “Forensic Science: Oxymoron?”, *Science*, 5 December 2003
- Troy Duster, “Explaining Differential Trust of DNA Forensic Technology: Grounded Assessment or Inexplicable Paranoia?,” in *Journal of Law, Medicine & Ethics*, Summer 2006.
- Simon Cole, “How much justice can technology afford? The impact of DNA technology on an equal justice system”. *Science and Public Policy* 34(2), March 2007.
- Recommended: American Society of Law, Medicine, and Ethics, project on forensics and civil liberties: http://www.aslme.org/dna_04.

10/19 Review

5. THE BRAIN AND THE LAW

10/24 Neuroscience: a legal revolution? [second analytical essay due]

- J. Green and J. Cohen, “For the law, neuroscience changes nothing, and everything.” *Philosophical Transactions of the Royal Society*, B. (2004)
- Henry T. Greely, “The Social Consequences of Advances in Neuroscience: Legal problems, Legal Perspectives,” in J. Illes (ed.) *Neuroethics: Defining the Issues In Theory, Practice and Policy* (Oxford University Press, 2006).
- Jeffrey Rosen, “The Brain on the Stand,” *The New York Times Magazine*, 11 March 2007.

10/26 Freewill and legal responsibility

- Dean Mobbs et al, “Law, responsibility and the brain.” *PLoS Biol* 5(4), 2007.
- Stephen Morse, “Moral and Legal Responsibility and the New Neuroscience,” in J. Illes (ed.) *Neuroethics: Defining the Issues In Theory, Practice and Policy* (Oxford University Press, 2005).
- Selections from Brent Garland (ed.) *Neuroscience and the Law* (Dana Press, 2004)
- Recommended: Neil Levy, *Neuroethics: Challenges for the 21st Century* (Cambridge University Press, 2007): chapter 7.

10/31 Brain scanning and mental privacy

- “Brain Scans Raise Privacy Concerns,” *Science*, 11 March 2005.
- Margaret Talbot, “Can brain scans uncover lies?,” *The New Yorker*, July 2, 2007.

6. SCIENCE AND PROPERTY

11/2 Law and private science

- Dorothy Nelkin, *Science as Intellectual Property: Who Controls Research?* (selections).

11/7 Patent Lawyers and Scientists in the courtroom

- Cambrosio, P. Keating and M. MacKenzie, “Scientific Practice in the Courtroom: The Construction of Sociotechnical Identities in a Biotechnology Patent Dispute.” *Social Problems*, Vol. 37, No. 3, August 1990.
- K. Swanson, “Biotech in Court.” *Social Studies of Science*, Vol. 37. No. 3 (June 2007).

7. LAW AND THE ‘CREATIONISM’ DEBATE

11/9 Introduction: The 1925 Scopes Trial (I)

- Film: *Inherit the Wind*
- Readings: The editorial reaction (in Sheldon Grebstein, *Monkey Trial: The State of Tennessee v. John Thomas Scopes*, Houghton Mifflin, 1960).

11/14 The Scopes Trial (II)

- Ronald L. Numbers, *The Creationists: from Scientific Creationism to Intelligent Design* (Harvard University Press, 2006): chapters 12, 13 & 14.

11/16 The 1982 Arkansas case (I) [outline of final paper due]

- Act 590 of 1981. General Acts, 73rd General Assembly, State of Arkansas.
- [Court Decision] *McLean v. Arkansas*. Opinion of William R. Overton, U.S. District Judge, Eastern District of Arkansas, Western Division (5 January 1982).
- Dorothy Nelkin, "Creationism Evolves," in D. Nelkin, *The Creation Controversy: Science or Scriptures in the Schools* (New York: Norton, 1982)

11/21 [Thanksgiving break]

11/23 [Thanksgiving break]

11/28 The 1982 Arkansas case: the philosophers' struggle [third essay due]

- Michael Ruse: "Creation-Science is not Science," *Science, Technology & Human Values* 7(41) (Fall 1982)
- Larry Laudan, "Science at the bar: Causes for concern," *Science, Technology & Human Values* 7(41) (Fall, 1982): 16-19.
- Michael Ruse, "Response to the commentary: *Pro judice*," *Science, Technology & Human Values* 7(41) (Fall, 1982): 19-23.

11/30 2005 Kitzmiller v. Dover

- Ronald L. Numbers, *The Creationists: from Scientific Creationism to Intelligent Design* (Harvard University Press, 2006): chapter 17.
- Margaret Talbot, "Darwin in the Dock", *The New Yorker* 12.5.2005

12/5 Kitzmiller v. Dover (II)

- [Court Decision] *Kitzmiller v. Dover Area School District*

12/7 A philosopher on the witness stand

- Steve Fuller, Testimony and "Rebuttal Report" (deposition in *Kitzmiller et al. v. Dover Area School Board*).
- Kevin Lambert, "Fuller's Folly." *Social Studies of Science* 36/6 (December 2006): 827-834.

12/12 Last day of classes: review [final paper due]