

History of Science 555: Undergraduate Seminar
"Science in America"
Spring 2009
Instructor: Ronald L. Numbers

Time:

Mondays, 1:20 to 3:15 p.m.

Location:

Room 1490, MSC, 1300 University Ave.

Description:

This capstone seminar for majors in the history of science focuses on *writing* history, not just reading what others have written about it. The primary requirement will be writing a 15-20-page research paper using primary sources. The topic for this semester is "Science in America," which includes the historical relationships between science and related fields such as medicine, technology, and religion.

Required Texts:

Robert V. Bruce, *The Launching of Modern American Science, 1846-1876* (New York: Alfred A. Knopf, 1987).

A. Hunter Dupree, *Science in the Federal Government: A History of Policies and Activities to 1940* (Cambridge, MA: Harvard University Press, 1957).

Daniel J. Kevles, *The Physicists: A History of a Scientific Community in Modern America* (New York: Knopf, 1977).

Ronald L. Numbers and Charles E. Rosenberg, *The Scientific Enterprise in America: Readings from Isis* (Chicago: University of Chicago Press, 1996).

William Strunk, Jr., and E. B. White, *The Elements of Style*, 4th ed. (Boston: Allyn and Bacon, 2000)

TOPICS AND ASSIGNMENTS

January 26: Introduction to American Science

Dupree, *Science in the Federal Government*, pp. 1-119.

February 2: The Launching of American Science

Bruce, *Launching of Modern American Science*, pp. 3-111

George H. Daniels, "The Process of Professionalization in American Science: The Emergent Period, 1820-1860," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 21-36.

February 9: Science and Technology before the Civil War

Bruce, *Launching of Modern American Science*, pp. 115-214

Hugh R. Slotten, "The Dilemmas of Science in the United States: Alexander Dallas Bache and the U.S. Coast Survey," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 37-60.

February 16: The Governance of Science

Bruce, *Launching of Modern American Science*, pp. 217-68

Sally Gregory Kohlstedt, "Parlors, Primers, and Public Schooling: Education for Science in Nineteenth-Century America," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 61-82.

Stanley M. Guralnick, "Sources of Misconception on the Role of Science in the Nineteenth-Century American College," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 83-97.

February 23: Civil War and Reconstruction [PAPER PROPOSALS DUE]

Dupree, *Science in the Federal Government*, pp.120-148

Bruce, *Launching of Modern American Science*, pp. 271-362

March 2: NO CLASS—INDIVIDUAL MEETINGS

March 9: From Reconstruction to World War I: Part 1

Dupree, *Science in the Federal Government*, pp.149-201

Margaret W. Rossiter, "'Women's Work' in Science, 1880-1910," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 123-40.

March 16: SPRING BREAK

March 23: From Reconstruction to World War I: Part 2

Kevles, *The Physicists*, pp. 3-101

Robert E. Kohler, "The Ph.D. Machine: Building on the Collegiate Base," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 98-122.

George Wise, "Ionists in Industry: Physical Chemistry at General Electric, 1900-1915," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp.187-202.

March 30: Between the Great Wars: Part 1 [OUTLINES DUE]

Dupree, *Science in the Federal Government*, pp. 302-82

John W. Servos, "Mathematics and the Physical Sciences in America, 1880-1930," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp.141-59.

Philip J. Pauly, "The Development of High School Biology: New York City, 1900-1925," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 160-86.

Larry Owens, "MIT and the Federal 'Angel': Academic R & D and Federal-Private Cooperation before World War II," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 247-72.

Gregg Mitman, "Cinematic Nature: Hollywood Technology, Popular Culture, and the American Museum of Natural History," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 203-27.

Strunk and White, *Elements of Style*, pp. 1-14

April 6: Between the Great Wars: Part 2

Kevles, *The Physicists*, pp.102-286

Susan E. Lederer, "Political Animals: The Shaping of Biomedical Research Literature in Twentieth-Century America," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 228-46.

Strunk and White, *Elements of Style*, pp. 15-33

April 13: World War II and After

Kevles, *The Physicists*, pp.287-366

Stanley Goldberg, "Inventing a Climate of Opinion: Vannevar Bush and the Decision to Build the Bomb," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp.273-96.

Daniel J. Kevles, "The National Science Foundation and the Debate over Postwar Research Policy, 1942-1945: A Political Interpretation of 'Science--The Endless Frontier,'" in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 297-319.

Strunk and White, *Elements of Style*, pp. 34-65

April 20: Cold War Science

Kevles, *The Physicists*, pp. 367-426, plus the preface to the 1995 edition.

David A. Hollinger, "Science as a Weapon in Kulturkämpfe in the United States during and after World War II," in *The Scientific Enterprise in America: Readings from Isis*, ed. Ronald L. Numbers and Charles E. Rosenberg (Chicago: University of Chicago Press, 1996), pp. 320-34.

Strunk and White, *Elements of Style*, pp. 66-85

April 27: REPORTS

May 4: REPORTS

