

# STS.092

## Technology and Environment in Industrial America

*Spring 2003*

Advanced Undergraduate Reading Course, with CI-m Component, 9 credits (2-0-7)

Instructor: Shane Hamilton, MIT Dept. of Science, Technology, and Society

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Office Hours: Tues., 2-4pm; anytime by appointment

### **Course Description:**

This course will examine the historical dimensions of American industrialization since the mid-19th century, focusing on relationships between technological change and the environment. Readings will explore the meaning of industrialization, showing how the increasing intensity and scale of natural resource use in the 19th and 20th centuries did not develop "naturally," but was driven by political and economic actions that have been structured by cultural and social concerns. Besides exploring the politics of industrialization, this course will probe the meaning of "nature," showing that the environment is not just forests, rivers, or "everything that isn't human," but also includes people, cities, factories, agriculture, fisheries, automobiles, and genetically manipulated plants. A primary goal of the course is to explore not only how technological change has impacted the environment, but also how the environment has shaped technological change.

### **Assignments:**

Class will meet for 2 hours of discussion each week. Students will be expected to read and critically evaluate both secondary works and primary sources for each week's class. Students will prepare a 1-2 page response paper for each week's readings. Each student will lead two class discussions, in consultation with the instructor.

Students will also write a 10-15 page original research paper on a topic of his or her choosing, in consultation with the instructor. Writing the paper will be an iterative learning process, as students will be graded on a proposal, an outline and first draft, and a substantially revised final draft. Students will also orally present the findings of their research to the class at the end of the term.

### **Readings:**

Readings will be available on the web at:

<http://web.mit.edu/course/other/sts.092/www/>

### **Grading:**

Discussion participation and response papers: 20%

Discussion presentations: 20%

Paper Proposal: 10%

Paper Outline and First Draft: 20%

Final paper and presentation: 30%

## **First Class: The Industrial Landscape in America (Overview Lecture)**

### **Week 1: Rights and Responsibilities in Commercial Fisheries**

- Arthur F. McEvoy, *The Fisherman's Problem: Ecology and Law in the California Fisheries, 1850-1980* (Cambridge: Cambridge University Press, 1986), pp. 3-16, 65-119.
- Trevor Corson, "Stalking the American Lobster," *Atlantic Monthly*, Apr 2002.

### **Week 2: Railroads and Rural Resources in the 19th Century**

- William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1991), 55-147
- Ronald L. Lewis, *Transforming the Appalachian Countryside: Railroads, Deforestation, and Social Change in West Virginia, 1880-1920* (Chapel Hill: University of North Carolina Press, 1998), 45-80
- Listen to bluegrass songs: "Orange Blossom Special," "Muleskinner Blues," "Nine Pound Hammer," "East Bound Freight Train" (provided by instructor)

### **Week 3: Rural Industrial Landscapes, part I**

- Robert B. Gordon and Patrick M. Malone, *The Texture of Industry: An Archaeological View of the Industrialization of North America* (New York: Oxford University Press, 1994), 177-223

### **Week 4: Rural Industrial Landscapes, part II**

- Brian Black, *Petrolia: The Landscape of America's First Oil Boom* (Baltimore: Johns Hopkins University Press, 2000), 1-81
- "Read" photographs in *Texture of Industry* and *Petrolia*

\*\*\*\*\*Paper Proposal Due\*\*\*\*\*

### **Week 5: Urban Industrial Landscapes, part I**

- Joel A. Tarr, "Searching for a 'Sink' for an Industrial Waste," in *Out of the Woods: Essays in Environmental History*, Char Miller and Hal Rothman, eds. (Pittsburgh: University of Pittsburgh Press, 1997)

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### **Week 6: Urban Industrial Landscapes, part II**

- Lindy Biggs, *The Rational Factory: Architecture, Technology, and Work in America's Age of Mass Production* (Baltimore: Johns Hopkins University Press, 1996), 95-160
- "Inside an American Factory: Films of the Westinghouse Works, 1904"  
"Coil Winding Machines"—<http://hdl.loc.gov/loc.mbrsmi/westhpp.1984>  
"Westinghouse Air-Brake Company"—  
<http://hdl.loc.gov/loc.mbrsmi/westhpp.2235>

### **Week 7: Conservation and Development in the Progressive Era**

- Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge, MA: Harvard University Press, 1959), 1-48, 122-146, 261-276
- Benton MacKaye, "The New Exploration: Charting the Industrial Wilderness," *Survey Graphic*, 1 May 1925

### **Week 8: Fords and Forests**

- Paul S. Sutter, *Driven Wild: How the Fight against Automobiles Launched the Modern Wilderness Movement* (Seattle: University of Washington Press, 2002), 19-99

\*\*\*\*\*Paper Outline and First Draft Due\*\*\*\*\*

### **Week 9: Depression and Disaster**

- Donald Worster, *Dust Bowl: The Southern Plains in the 1930s* (New York: Oxford University Press, 1979), 1-79
- Listen to Woody Guthrie, *Dust Bowl Ballads* (provided by instructor)

### **Week 10: Annihilating Pests and Enemies**

- Edmund Russell, *War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring* (Cambridge: Cambridge University Press, 2001), 1-16, 95-164

### **Week 11: Industrial Cows and Chickens**

- William Boyd, "Making Meat: Science, Technology, and American Poultry Production," *Technology and Culture* 43 (Oct 2001): 631-64.
- Michael Pollan, "Power Steer," *New York Times Magazine*, 11 Mar 2002.
- Robert F. Kennedy, Jr., "I Do Not Like Green Eggs and Ham!" in *Sustainable Cuisine White Papers*, ed. Leslie Hoffman (New York: Earth Pledge Foundation, 1999).
- "Tyson Cares about the Environment," available on Tyson Food's website: <http://www.tyson.com/cares/environment/default.asp>

### **Week 12: Biotechnology in Historical Perspective**

- Jack R. Kloppenburg, Jr., *First the Seed: The Political Economy of Plant Biotechnology, 1492-2000* (Cambridge: Cambridge University Press, 1988), 130-151

\*\*\*\*\*Final Paper Presentations\*\*\*\*\*