

History of Technology & Engineering in Western Civilization¹
History 361, Spring 2006

Jonathan Coopersmith
313 History
979-845-8584
j-coopersmith@tamu.edu

Office hours: Tuesday and Thursday, 11:30-12:00 and by appointment

Course Description We will explore the process of technological change along with cultural responses. Through historical analysis we can cultivate awareness of the forces that have shaped technology and hence society. We begin with early European industrial development, examine the Industrial Revolution in Britain, consider industrialization on the Continent and the United States, and look at modernization in Asia. We conclude by discussing the role of technology in the modern state.

Reading

Loren Graham, The Ghost of the Executed Engineer
Robert Linhart, The Assembly Line
Thomas Misa, Leonardo to the Internet
Peter Stearns, The Industrial Revolution in World History
Dava Sobel, Longitude
Tom Standage, The Victorian Internet

Grades: Your grade will be determined by class participation and discussions (25%), three typed 2-3 page reports (35%), a midterm (20%) and a final (20%). Coherency, grammar, and spelling count on all work. I gladly discuss drafts and outlines up to 48 hours before an assignment is due and encourage you to discuss your work with others. The work you turn in, however, is your own.² Papers are due at the start of class and the midterm by the end of that class in the History Department office. Late work loses credit.

¹ The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission.

² As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with the definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of the person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult www.tamu.edu/aggiehonor.

Participation consists of entering a question raised by the weekly reading into WebCT by 11 p.m. Wednesday and reading your classmates' contributions. In addition to your own posting, feel free to reply to others'. Two other components are engaging in the class discussions, so attendance is expected, and submitting questions for the mid-term.

For the papers, you should establish a central theme from the book and develop and support it, using concepts from the course where appropriate.³ A 'good faith' outline or paragraph about your paper on WebCT will serve as the basis for class discussion and is worth a grade (i.e., without the outline the B becomes a C). The third paper may be written as fiction (but no romance). For assistance in writing, take advantage of the Writing Center (uwc.tamu.edu).

The 3-5 page final will use the themes discussed in this class to pose and answer a question about an event you have observed personally. Teacher trainees have the option to develop a lesson for their future classes. The final is due by May 10, Wednesday, at 3 p.m.

I strongly encourage you to participate in class. Please ask questions (the only foolish question is the one not asked). If you are curious about or do not understand something, ask (quite likely you are not alone and others will be grateful). If you have a learning disability or other potential problem, let me know at the start of the course.⁴ I operate under the assumption that you are a mature, responsible adult.

Week 1. January 17-19. What is the history of technology? Approaches.
electronic reserves
Kranzberg, Winpenny, 13 ideal passenger cars
"For those born after 1945"

Week 2. January 24-26. Setting the Stage: Renaissance technology. A growing West-Rest Divide. Why not China, Germany or Italy?
Stearns, intro; Misa, 1
Sobel **discussion**, January 26

Week 3. January 31 - February 2. First Industrial Revolution: Why Britain?
Stearns, 1-2; Misa, 2
Sobel **paper**, February 2

Week 4. February 7-9. Textiles, transportation, and trade. American System of Manufactures.

³ See <http://www-personal.si.umich.edu/~rfrost/courses/arguing.html> .

⁴The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life Services for Students with Disabilities in Cain Hall (845-1637) as well as discussing it with me.

Stearns, 3; Misa, 3

Week 5. February 14-16. The telegraph and railroad.
Standage **discussion**, February 14/16

Week 6. February 21-23. Second industrial revolution: Science-based technologies.

Stearns, 4
Standage **paper**, February 23

Week 7. February 28 - March 2. The Control Revolution: From economics of scarcity to abundance.

Stearns, 9

Week 8. March 7-9. Urbanization and infrastructure.

Stearns, 10; Misa, 5

BREAK

Week 9. March 21-23. Automobiles, "Americanism," and "Fordism." Imperialism.

Misa, 4

Week 10. March 28-30. Forced industrialization: Russia and Japan.

Stearns, 6-8; Misa, 6

Graham

Midterm questions, March 28

Week 11. April 4-6. The World Wars and command technologies.

Misa, 7

electronic reserves - Nine Billion Names

Midterm, April 4/6 - no class

Week 12. April 11-13. The Space and Atomic Ages.

Stearns, 11-13; Misa, 8

Linhart **discussion**

Week 13. April 18-20. The computer and communications revolutions.

Stearns, 14

Graham or Linhart **paper**, April 20

Week 14. April 25-27. National styles: Birth control.

Stearns, 15-16; Misa, 9

electronic reserves - pornography

FINAL due **May 10** at 3 p.m.