



Certain new technologies are greeted with claims that, for good or ill, they must transform our society. The two most recent: the computer and the Internet. But the series of social, economic, and technological developments that underlie what is often called the “Information Revolution” include much more than just the computer. In this course, we examine what made this series of developments seem so revolutionary, who said what about them, and why. We chart changing perceptions of information technologies as people begin to experience them as a part of everyday life and work. We will explore both the technologies themselves as well as their larger social, economic, and political context. These perspectives will inform our discussion of current issues such as life and censorship in ‘cyberspace’.

The Information Age

STSC 160/HSOC 011 • Fall 2008

Professor Nathan L. Ensmenger
nathanen@sas.upenn.edu

For the Class of 2009 and earlier, this class fulfills the General Requirement for History & Tradition; For the Class of 2010 and later, it fulfills the General Requirement in the Humanities and Social Sciences

STSC 160 : The Information Age

Professor Nathan L. Ensmenger
Office Hours: M 9-11, T 3-4:30 pm, 362 Claudia Cohen Hall
nathanen@sas.upenn.edu

Teaching Assistants:

Deanna Day (daymd@sas.upenn.edu)
Jonathan Milde (jmilde@sas.upenn.edu)
Jason Schwartz (jlschwa2@sas.upenn.edu)

Course Format:

The Information Age course meets on Tuesdays and Thursdays from 12-1:30 in the Claudia Cohen Hall auditorium. To the degree possible with such a large course, our meetings will be a mixed lecture-discussion format. Our Tuesday session will typically introduce our week's topic; Thursday will provide further development, as well as an opportunity to talk about the readings and answer any questions that you might have. You should have prepared the readings in advance for the Thursday session.

Attendance is mandatory. Since there is no textbook for the course, it is particularly important that you attend the lectures. I make extensive use of images, audio, and video. Although I will make some of this material available on the course Blackboard site, much of it will be available only during class. If you do need to miss class please let me or one of the TAs know in advance.

Grading will be based on a series of short assignments (25%), two in-class mid-terms (25% each), and a final exam (25%). The two mid-terms are non-cumulative, and cover approximately 5 weeks of material each. The final exam focuses on the last third of the course, but does include some cumulative, big-picture material.

Required Readings:

All of the readings for this course will be made available electronically via the course Blackboard site or will be distributed in-class.

Course Schedule:

I Introduction

September 4: Information, Data, Knowledge

No readings this week.

II The Information Age

September 9: Gutenberg, Galileo, Google

September 11: Books + Coffee = Revolution

Cook, Scott D.N. "Technological Revolutions and the Gutenberg Myth." In *Internet Dreams: Archetypes, Myths, and Metaphors*, edited by Mark Stefik. Cambridge, MA: MIT Press, 1997.

III Annihilation of Time & Space

September 16: The Politics of the Post-Office

September 18: What Hath God Wrought?

Henkin, David. "Embracing Opportunities: The Construction of the Personal Letter," *The Postal Age: The Emergence of Modern Communications in Nineteenth-Century America* (2007)

Campbell-Kelly, Martin. "The Railway Clearing House." In *Information Acumen: The Understanding and Use of Knowledge in Modern Business*, edited by Lisa Bud-Frierman, pp. 51–74.

Assignment #1: Short response paper.

IV Industrializing Information

September 23: When Computers Were Human

September 25: Information Factories

Croarken, Mary. "Tabulating the Heavens: Computing the *Nautical Almanac* in 18th-Century England," *Annals of the History of Computing* 25:3 (2003), pp. 48–61.

Aspray, William and Martin Campbell-Kelly. "Babbage's Dream" *Computer: A History of the Information Machine* (1996)

V When Information IS Power

September 30: Film, Music, and Intellectual Property

October 2: Advertising the American Dream

Douglas, Susan. "Popular Culture and Populist Technology," in *Inventing American Broadcasting* (Johns Hopkins University Press, 1987).

Gladwell, Malcolm. "The Science of Shopping." *New Yorker* (Nov. 4, 1996)

VI You Say You Want a Revolution?

October 7: Ministry of Truth and Information

October 9: Giant Brains; or, Machines that Think

Edwards, Paul. *The Closed World: Computers and the Politics of Discourse in Cold War America* (1996), Chp. 2 "Why Build Computers? The Military Role in Computer Research," pp. 43-73.

VII War. What is it good for?

October 14: Fall Break

October 16: Mid-Term #1

In-class mid-term #1: 45 minutes; covers weeks 1–6.

VIII The Computerization of Society

October 21: Build your own Computer!

October 23: IBM and the Seven Dwarves

Aspray, William and Martin Campbell-Kelly. *Computer: A History of the Information Machine* (1996), Chapters 5,6.

Assignment #2: Work through the handout on "Machine Architecture" (from Alan Bierman's *Great Ideas in Computer Science*) and complete the first three exercise problems.

IX Silicon Valley 1.0

October 28: The Valley of Heart's Delight

October 30: Go West Young Man

Levy, Steve. "The Model Railroad Club," and "The Hacker Ethic," Chapters 1,2 in *Hackers: Heroes of the Computer Revolution*.

Leslie, Stuart and Robert Kargon. "Selling Silicon Valley: Frederick Terman's Model for Regional Advantage" *Business History Review* 70 (1996), pp.435–472.

Assignment #3: Spend some time playing the Game of Life online. Bonus points for the weirdest/most unusual eco-system.

X Computers, Codes, DNA

November 4: Mechanical Brains to Molecular Biology

November 6: Simulations, Simulacra, and the Matrix

Turkle, Sherry. "Hackers: Loving the Machine for Itself" from *The Second Self: Computers and the Human Spirit*(Simon & Schuster, 1984).

In-class mid-term #2: 45 minutes; covers weeks 7–10.

XI From Hippies to Hackers

November 11: Triumph of the Nerds

November 13: From Videotext to Videogames

Now Showing: Triumph of the Nerds Documentary

De Lacy, Justine. "The Sexy Computer." In *Computers in the Human Context*, edited by Tom Forrester. Cambridge, MA: MIT Press, 1989.

Buckingham, David "Studying computer games" in Diane Carr et al., *Computer games: Text, narrative and play* (Polity, 2006)

XII The PC Revolution

November 18: Great Myths in the History of Computing

November 20: Origins of the Internet

Cringely, Robert X. *Accidental Empires: How the Boys of Silicon Valley Make Their Millions, Battle Foreign Competition, and Still Can't Get a Date*. (1992). Chapters 7-8, pp. 119–181.

Assignment #4: Primary source readings: personal computer advertisements.

XIII Cyberspace(s)

November 25: Code is Law

Abbate, Janet. *Inventing the Internet* (MIT Press 1999), Chapters 1-2.

boyd, danah. "Viewing American class divisions through Facebook and MySpace ." *Apophenia Blog Essay*. June 24, 2007.

Assignment #5: Facebook ethnography.

XIV Information Revolution Revisited

December 2: The Future of the Internet

December 4: Big Finish

Winner, Langdon. "Mythinformation," from *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (1986), pp. 98–117.

Goldsmith, Jack and Wu, Timothy. *Who Controls the Internet?: Illusions of a Borderless World*. Oxford University Press, 2006. Selected excerpts.

The final exam for this course is currently scheduled for Dec 10, from 9-11. Please note that the registrar sets the exam schedule, and they are subject to change.