

STSC 160: The Information Age

Professor Nathan. Ensmenger
362 Claudia Cohen Hall
Office Hours: M 9-11 am, T 1:30-2:30 pm
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Teaching Assistants:

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Course Format:

The Information Age course meets on Tuesdays and Thursdays from 12-1:30 in the Claudia Cohen Auditorium (G17). 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 in the course is more than usually mandatory. Since there is no textbook for the course, it is absolutely essential 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 in this class will be based on four major components: two short response papers (20%), a longer primary-source research paper (20%), an in-class mid-term (30%), and a final exam (30%).

Required Readings:

The one required book for this course is available at the Penn Bookstore (or online):

Ensmenger, Nathan. *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise* (MIT Press, 2010)

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

This course fulfills the General Requirement in Sector IV: Humanities and Social Sciences.

Course Schedule

I Introduction

September 9: Information, Data, Knowledge

No readings this week.

II The Age of Information

September 14: Gutenberg, Galileo, Google

September 16: 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.
Powers, William. *Hamlet's Blackberry: Why Paper Is Eternal*, Harvard University Shorenstein Center on the Press, Politics and Public Policy, 2007.

III Revolutionary Information

September 21: Spreading the News

September 23: The Politics of the Post-Office

Henkin, David. "Embracing Opportunities: The Construction of the Personal Letter," *The Postal Age: The Emergence of Modern Communications in Nineteenth-Century America* (2007)
John, Richard. "Recasting the Information Infrastructure for the Industrial Age." In *A Nation Transformed by Information: How Information Has Shaped the United States from Colonial Times to the Present* (2000)

IV Industrializing Information

September 28: Information Factories

September 30: When Computers Were Human

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

October 5: From Ad Men to Big Brother

October 7: Popular Cinema, Mass-Market Music, Intellectual Property

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 Information Regurgitation

October 14: Mid-Term

In-class mid-term: covers weeks 1–5.

VII War: what is it good for?

October 19: Giant Brains; or, Machines that Think

October 21: Build your own Computer!

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.

VIII The Computerization of Society

October 26: IBM and the Seven Dwarves

October 28: Software Revolution

Ensmenger, Nathan. *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise* (MIT Press, 2010). Chapters 1-3.

IX Silicon Valley 1.0

November 2: Silicon Valley 1.0

November 4: Simulations, Simulacra, and the Matrix

Ensmenger, Nathan. *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise* (MIT Press, 2010). Chapters 5-7, 9.

X From Hippies to Hackers

November 9: From Videotext to Videogames

November 11: Triumph of the Nerds

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

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)

XI Great Myths in the History of Computing

November 16: No one expects the Computer Revolution ...

November 18: Apple, IBM, Microsoft

Aspray, William and Martin Campbell-Kelly. "The Shaping of the Personal Computer," "Broadening the Appeal," "From the World Brain to the World-Wide Web." *Computer: A History of the Information Machine* (1996). Chapters 10-12.

Now Showing: Triumph of the Nerds Documentary

XII Origins of the Internet

November 23: ARPAnet to Internet

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

XIII Cyberspace(s)

November 30: The Architecture of the Internet

December 2: Code is Law

Lessig, Lawrence. *Code, and other Laws of Cyberspace*. Basic Books, 1999. Chapters 4-5.
boyd, danah. "Viewing American class divisions through Facebook and MySpace." *Apophenia Blog Essay*. June 24, 2007.

Artifact Assignment: Primary source analysis of the early history of the PC.

XIV Red Pill, Blue Pill ...

December 7: The Information Revolution Revisited

December 9: 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.

Final Exam Information:

The final exam for this course is scheduled for Monday, December 20th from 12-2 pm. Further information will be provided as the Registrar's office makes it available.