The history of computing is about more than just the electronic digital computer. It is the story of a wide range of human activities, scientific practices, and technological developments. The story begins in the early 19th century with the emergence of new demands for information management – from scientific researchers, expanding government bureaucracies, and increasingly national and international corporations. It includes not only “computers” (itself a large and diverse category) but data processing, communications, and visualization technologies, as well as people, practices, and organizational structures.

In this course we will explore the history of computing in all of its forms and varieties. We will situate the computer in the broader history of technology, but also consider it from the perspectives of the history of science, labor history, and social history.

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

Revision Date: December 21, 2009
Course Schedule:

In addition to doing the required readings and preparing for discussions, each participant will select two supplementary readings to review and present to the class.

I You say you want a revolution . . .
January 14: intro to the information age; bad historiography; planning for the future.

Required Reading(s):


II The Origins of the Information Age
January 21: historicizing information “revolutions”; statistics & quantification; print culture; the emergence of modern science

Required Reading(s):
Daniel Headrick, *When Information Came of Age: Technologies of Knowledge in the Age of Reason and Revolution, 1700-1850* (Oxford University Press, 2000)

Supplementary Readings/Reports:

III The Annihilation of Space & Time
January 28: communications & transportation; geography & information tech

Required Reading(s):


Supplementary Readings/Reports:

IV Computing Before the Computer . . .
February 4: the office machines industry of the 19th century; corporate control and communications; “industrializing” information
Required Reading(s):
JoAnne Yates, *Structuring the Information Age: Life Insurance and Technology in the Twentieth Century* (Johns Hopkins University Press, 2005)

Supplementary Readings/Reports:

V The Government Machine
February 11: technology and the state; computing as metaphor; administrative control

Required Reading(s):

Supplementary Readings/Reports:

VI When Computers Were Human
February 18: scientific computing; labor; when computers were women.

Required Reading(s):
David Alan Grier, *When computers were human* (Princeton University Press, 2005)

Supplementary Readings/Reports:

VII Giant Brains
February 25: computing and war; electronics and computing; control systems; cybernetics

Required Reading(s):


Supplementary Readings/Reports:

VIII Reinventing the Computer
March 4: business data processing; mini-computers; innovation and venture capital; work and organizational politics

Required Reading(s):
IX Spring Break!
March 11: Woo-hoo.

X New Modes of Organization: Software & Systems
March 18: software and the socio-technical system; systems analysis and operations research; computing as business process; gender

Required Reading(s):
Martin Campbell-Kelly, From airline reservations to Sonic the Hedgehog: a history of the software industry (MIT Press, 2003)


Supplementary Readings/Reports:

XIV The Architecture of the Internet
April 15: networked societies; big picture theories

*Required Reading(s):*

*Supplementary Readings/Reports:*

XV Big Finish
April 22: everything else; cyberculture; ethnographies; social science research; digital divide

*Required Reading(s):*
TBD.