This course will explore the relationship between technological innovation and business history. By looking at a series of case studies of technologically driven firms – both U.S. and international – we will develop a more sophisticated and historically informed model of the relationship between technological, economic, legal, and political developments in the late 19th and 20th centuries.

**Course Format:** The course meets only once weekly and is discussion-intensive, and so attendance is particularly important. Come fully prepared to discuss the readings – a significant portion of your grade will depend on class participation. Each week students will prepare a one-page response to the reading to be turned in during class. In addition, two students will be responsible for leading discussion, summarizing the issues, and raising questions. Your final grade will be based on your class participation (30%), weekly response papers (20%), and a final paper/presentation (50%). The final papers we will be preparing throughout the semester, and your will be working with a CWiC consultant on your final presentations.

**Course Readings:** The books for the course are available in the Penn Book Center. The course bulkpack is available at Wharton Reprographics, located in the basement of Dietrich-Steinberg.
Course Schedule:

I Introduction
September 12: Nature of technology and innovation. Technology systems.

II Yankee Ingenuity
September 19: What was American about the individual inventor? The Patent system. Tech transfer by immigration from Europe. Role of mechanics institutes (eg, Franklin Inst.) in supporting inventors before engineering schools.


III The American System
September 26: Guns and clocks the origins of mass production in the US. The 1851 Crystal Palace Exhibition and the role of international fairs in technology. Mass consumption; the emergence of regional and national markets and of advertising.


IV Railroads
October 3: Technology and business in development of the railroad system. Key role of private financing. Financing also in textile industry. Lowell mill system.


V Edison
October 10: The importance of the technology system. Edison as the first of the new inventor/entrepreneurs; how did it change after TAE. Edison's R&D lab and his use of Wall St. and the media. IP: Edison's film trust; the GE patents on ductile tungsten.

VI The Rise of the Modern Corporation

October 17: Chandler’s key points as exemplified in variety of industries: oil, chemicals, steel, information/telegraph.


VII The Interwar Period


VIII The Go-Go Years

October 31: The emergence of a new electronics industry. Focus on semiconductors and process technologies.


IX Venture Capital & Start-Up Firms

November 7: The VC industry and the spread of start-ups. Increased role of DoD and ARPA. Silicon Valley 101.


X The Computer Revolution

November 14: Hobbyists and the emergence of the PC. Silicon Valley 2.0 and the PC revolution. IBM as a link to the past and as the basis for standards to facilitate innovation.

XI  E-Commerce
November 21:


XII  Pharmaceuticals & Biotech
November 28: The traditional strengths of pharmaceutical industry and its role in innovation. Emergence of biotech and how it changed things.


XIII  Big Finish
December 5: In which all is made clear . . .

No readings.