History of Technology

| HIS 180 - CRN 29233 | Fall 2018 | Mon-Wed 1815-1930 | Gavett 202 |
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Required Coursework and Grading

- **Four papers are required** – Double-spaced, references not required unless you are quoting someone or want to cite some obscure fact. E-mailed PDF preferred, Word is ok. Paper copies acceptable, double-sided printing saves paper. Papers are due by the end of class on the date due, late papers will lose points. If you prefer, you may use another media such as video or powerpoint that covers the same information, but consult with me to ensure that it will meet the requirements.
- **Paper #1**: **Guns, Germs & Steel – Did Jared Diamond get it right? (25 points)** – Due October 8th – Write a 2–3 page paper giving your opinion about Diamond's thesis that environmental determinism was the major factor in the rise of European technological superiority. Several articles critical of Diamond will be posted on Blackboard and covered in class lectures. Be specific in your concurrence or criticism of his thesis.
- **Paper #2: Personal technology (25 points)** – Due October 29th – Write a 4-6+ page paper about the technology you have used, how it has changed during your life, and how it impacts how you live. Feel free to include any relevant pictures or articles about technologies you have used. Have you ever interacted with low-tech groups such as the Amish? Have you ever visited a place where people lived without electricity and running water? The paper should cover as many of these topics as possible, feel free to include others:
  - Transportation
  - Communications
  - Computers/software/printers
  - Music
  - Movies & photography
  - Energy and water
  - Food and drink
  - Shopping & money
  - Medicine
  - Clothing
  - Housing
  - Games & amusements
- **Paper #3: Ancestor technology (25 points)** – Due December 12th (Last day of class) – Write a 4-6+ page paper similar to paper #2, but based on the experience of one (or more) parents, grandparents or other ancient person. This will require gently interrogating the lucky individual(s) to reveal all the gory technical details of their primitive lives. Include pictures and relevant newspaper or magazine articles about their stuff.
- **Paper #4: Research paper (25 points) –** Due Friday, December 21st at noon. **–** Research and write a 10 page (±) paper about a technology that you expect to encounter in your life. Include its antecedents, alternatives, and your prediction of its future impact on your work and life. If you want to do any other type of final project, let me know.
- **Option: Special Project:** In lieu of paper #4, one or more students could put together a series of posters showing the history of computing, networks, and telephones at the University that could be posted in the library.
- Assignment grades will be posted on Blackboard. The course grade will be based on the total number of points earned in the course, with letter grades assigned according to the following scale:

94-100	A	85-88	B	78-80	C	70-72	D
91-93	A-	82-84	B-	75-77	C-	68-69	D-
89-91	B+	80-81	C+	73-74	D+	0-67	E

Texts and Resources

Lecture powerpoint slides will be posted on Blackboard along with links to most videos shown in class.

No specific textbooks are assigned for this course, but there are thousands of relevant books in the libraries on campus, plus tons of stuff on the Internet. Wikipedia is a good starting point for many topics, but don't accept it (or anything else) as gospel. Be a critical reader. YouTube and other video sites also have a lot of good technological information and history.

Relevant articles and other information will be posted Blackboard covering a wide range of technologies. Although several periodicals just cover technology, the tight nexus between technology, politics, and money means that the following periodicals can provide good coverage of technology on a general level:
New York Times | *The Economist* | *Bloomberg Business Week* | *The Wall Street Journal*

1. **29 August –** Introduction and Historical Background | What is history? What is technology? Why is the History of Technology important? What are the most important technological innovations? How is new technology adopted?

2. **5 September** – The Agricultural Revolution | Video *Guns, Germs & Steel* – Part 1. The importance of agricultural surpluses in creating civilization, and the various roles of technology in facilitating them. Why did Western Europeans get all the cargo?

3. **10 September –** The Rise of the City | Video *Guns, Germs & Steel* – Part 2. Cities were essential to the rise of civilizations, and were both driven by and drove technological advances.

4. **12 September –**Video *Guns, Germs & Steel – Part 3*. Did Jared Diamond get it right? The history of paper, ink and the printing press.

5. **17 September –** Observation and measurement (telescope, microscopes, surveying, clocks, calendars, time, distance, navigation) Since most people have a GPS built into their phone, what is located at 43°07'40"N 77°37'49"W?

6. **19 September –** The Transportation Revolution (wheels, ships, canals, roads) Isochron travel time maps.

7. **24 September –** Water, Wind, and the Steam Engine (railroads, steamships, factories, electric generation)

8. **26 September –** The Industrial Revolution (textile mills and other factories)

9. **1 October –** Food Preparation and Storage. How it became possible to live alone in the city without starving.

10. **3 October –** Mechanical and Electric Telegraphs and Facsimile Transmission

11. **8 October –** Telephones, FaceTime, Skype, etc. (Dorm rooms didn't have phones, then they did, now they don't.) **Paper 1 due *Guns Germs & Steel* and its critics**

12. **10 October –** Materials (bronze, copper, iron steel, rubber, plastic, ceramics, graphene)

15 October – Fall Break – No class

13. **15 October –** Electricity and batteries (light, heat and power) "But, after all, what use is it?" "Why, sir, there is every probability that you will soon be able to tax it!" And tax it they did.

14. **22 October –** Photography and motion pictures (George Eastman, Kodak, digital theaters, Blockbuster, Netflix)

15. **24 October –** Water supply, sewers, and indoor plumbing

16. **29 October –** Printing (typewriters, printing presses, linotype machines, word processors, laser printers) **Paper #2 Personal technology paper due**

17. **31 October –** The Internal Combustion Engine, cars, airplanes, lawnmowers, etc.

18. **5 November –** Voting technology **–** Can voting machines be hacked? Should a paper audit trail be mandatory? How is redistricting done every ten years?

19. **7 November –** Hollerith, Babbage and the birth of Big Data

20. **12 November** – Money and banking

21. **14 November –** Medicine

22. **19 November –** Radio, Television, Radar, GPS, and Consumer Electronics. Transistors.

21 November – Thanksgiving Break – No class

23. **26 November –** The Internet and its predecessors. Tubes.

24. **28 November –** Aviation and the shrinking of the world

25. **3 December –** Rockets and Space Exploration. The answer is 42.

26. **5 December –** Big Data and the future of information, communications, advertising, and entertainment. How will companies reach out to consumers?

27. **10 December –** Does technology promote freedom or oppression? Some examples.

28. **12 December –** Electric and self-driving cars. **Paper #3 Ancestor Technology paper due**

21 December – Final paper #4 or Special Project due at noon on Friday