HSCI 3333: Technology and Society in World History
a.k.a. Inventing the Modern World

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Course Description:
Over the past several centuries we humans have built an increasingly artificial world. As a result, our contact with nature has become increasingly mediated by our technologies. There is a layer between us and the natural world—sometimes many layers—that did not exist in the past. The world of artifice in which we live is more orderly, more controllable, and more predictable than a world where contact with nature is more direct and immediate. Nature cannot ever be totally controlled, however, and many of the challenges facing us today have to do with discovering the limits to our power to control nature. This course will examine some of the key steps in the construction of our artificial, mediated world, paying particular attention to the human dreams, desires, and experiences associated with momentous technological changes.

This course is based on the central idea that technology and society make each other, all the time. Because technology and society are so closely intertwined, every significant technology is invented twice. The first invention is a technical solution to a recognized problem. The second invention is a social reinvention or repurposing of the new technology. Invention doesn't stop there, of course; the new, repurposed technology poses new technical challenges, and some of the solutions to those challenges will lead to other social reinventions. Together, these two ideas—the co-construction of technology and society and the repeating cycle of invention and reinvention—are the chief lessons of this course. Like so many important lessons, they seem simple on the surface, but are surprising in their depth and application.

Course Mechanics
Each week there will be three class meetings. You are expected to attend every class unless you have a family emergency, are ill, or have some other legitimate reason for having to miss class. If you know that you will have to miss a class, you should let me know as soon as possible. Like most professors, I am much more sympathetic to excuses presented before rather than after the fact. If you have a question or concern, please talk to me. Your job in this class is to learn, and my job is to help you do it. Asking questions helps both of us do our jobs better.

In general, Mondays will be devoted to discussing readings. The Monday readings will be secondary sources intended to provide a broad overview of the topic for the week. You will need to complete these readings and take a short online quiz on them before class each Monday. (The quiz will take 15-20 minutes.) In class on Monday, you will break into discussion groups, where you will tackle a group assignment on the material. You will keep the same discussion groups the whole semester, unless I decide to change them due to chemistry problems.

On Wednesdays, I will give a lecture on a special topic related to the general topic of the week. Usually, these will be case studies or examples illustrating the main theme. Fridays, like Mondays, will be devoted to group discussion and group assignments, this time focusing on a second set of readings/viewings and on material from Wednesday’s lecture. The Friday readings will be chosen to be more provocative and evocative, with most of them being novels or films. Again, there will be a short online quiz due before class Friday, with the pre-Friday quiz covering the Wednesday lecture and the Friday readings.

The quizzes are to help ensure that everyone in each group shows up ready to contribute rather than hoping to coast on the efforts of their team-mates. They will not be very difficult if you have done the reading, attended the lecture, and reviewed your reading and lecture notes before taking the quiz. They will be rather difficult if you have not done so.

In addition to your weekly quizzes and group assignments, you will have a mid-term exam, a final exam, and a paper/project. The midterm will be a take-home essay exam. You will get the questions in class on a Wednesday and will turn them in in class on the next Monday. It is expected that you will write at least 1000 words (a little over three pages) for the take-home exam, with most exam essays being about 4-5 pages. You do not need to do outside reading or research for the take-home exam, but you will need to pay attention to clarity of expression, grammar, and spelling in addition to the intellectual content of the essay. The final exam will be a combination of essays and quiz-like questions.

Finally, you will also write a 7-10 page paper (or create a project of similar scale, such as a Web site or other digital presentation, as approved by me) on the history of a technology. Collaborative
projects are possible, but they must be approved by me ahead of time and the contributions of each member of the collaboration must be made clear. It is a good idea to talk to me early and often about your paper; I will be happy to read and comment on draft papers, so long as you give me a reasonable amount of lead time.

Academic integrity: HSCI takes academic integrity seriously, so please check out the resources and video from the OU Integrity Council, such as this one on plagiarism: http://www.kaltura.com/tiny/cyrr9

Grade Breakdown for HSCI 3333

Weekly Quizzes: 25%  
Weekly Group Assignments: 25%  
Take-Home Midterm: 10%  
Final Exam: 25%  
Paper/Project: 15%

Books to Buy:

Films to Rent or Buy or get on Netflix ...
2) *The Truman Show*, 1998

Course Schedule

Week 1: Course Introduction
Jan 13. Course Introduction. What is technology? Why study its history?
Jan 15. Discussion: technology and society. (Pre-test for course)
   Readings:
Jan 17: Overview of part I of course.
   Reading: *Artifice*, Introduction and overview to Part I.

Week 2: Background to Revolution: technology and society in world history
Jan. 20. No Class. MLK Day.
Jan. 22. A Walking Tour of the World, @1400.
Jan. 24. Discussion: Before the Revolution
   Readings:
   1) Lewis Mumford, selections from *Technics and Civilization*. *On D2L*.
   2) Lynn White, Jr., selections from *Medieval Technology and Social Change*. *On D2L*.

Week 3: The Revolution of the Word
Jan. 27. The Print Revolution
   Reading: *Artifice*, Chapter 1. *On D2L*
Jan. 29. Piracy!
   Readings:
   1) Umberto Eco, excerpts from *The Name of the Rose*. *On D2L*.

Week 4: Purchasing Power
Feb. 3. The Military Revolution. *On D2L*
   Reading: *Artifice*, chapter 2.
Feb. 5. Money, Money, Money
Feb. 7. Discussion: Guns, Kings, and Credit
   Readings:
   1) Watch *Master and Commander*. (Rent/watch on your own before class.)
2) Thomas Esper, “Replacement of the Longbow by Firearms.” On D2L
3) Barton Hacker, “The Weapons of the West.” On D2L

Week 5: Time is Money
Feb. 10. Revolution in Work (factory, automatic machinery, wage labor)
   Reading: Artifice, chapter 3. On D2L
Feb. 12. Revolution in Power (fossil fuel-based industry)
Feb. 14. Discussion: work
   Readings:
   1) Start Charles, Dickens, Hard Times. Discussion will cover the first half of the book.

Week 6: Lines of Power
Feb. 17. The Control Revolution.
   Reading: Artifice, introduction to Part II and Chapter 4. On D2L
Feb. 19. Rails, Wires, and Empires
Feb. 21. Discussion:
   Readings:
   1) Finish Dickens, Hard Times.

Week 7: Power, Light, Water
   Reading: Artifice, chapter 5. On D2L
Feb. 26. Sewer Gases and Sublime Lights Midterm 1 handed out!
Feb. 28. Discussion:
   Readings:
   1) David Nye, excerpts from Electrifying America. On D2L

Week 8: Perpetual Motion
Mar. 3. Mass Production and the Second Industrial Revolution
   Reading: Artifice, Chapter 6. On D2L
Midterm 1 due in class!
Mar. 5. The Automobile and the Mobile Life
Mar. 7. Discussion: the system must come first
   Reading:
   1) Henry Ford, “Mass Production.” On D2L
   2) James Flink, “The Car Culture.” On D2L
   3) Daniel Boorstin, “The Democratic Experience.” On D2L

Week 9: Media Revolution
Mar. 10. The Laboratory Revolution and Pervasive Design
   Readings:
   1) Artifice, introduction to Part III and Chapter 7; On D2L
   2) Richard Popp, “Machine-Age Communication.” On D2L
Mar. 12. Revolution in Sight and Sound
Mar. 14. Discussion:
   Readings:
   1) War of the Worlds broadcast
   2) OR Singing in the Rain
   3) OR Citizen Kane
   4) OR Modern Times

Week 10: Spring Break.
Mar. 17. Go Home.
Mar. 19. Take it easy.

Week 11: Synthetica
Mar. 24. One Word: Plastics
Reading: Jeffrey Meikle, selections from *American Plastic*. On D2L

Mar. 28. Discussion: plastic America
Reading:
1) Ray Bradbury, *Fahrenheit 451*.

**Week 12: Atomic World/A Change of Scale**

Mar. 31. The Manhattan Project
Readings:
1) “Introduction: Trinity,” from *The Manhattan Project, a Documentary History*; On D2L
2) Richard Rhodes, excerpt from *The Making of the Atomic Bomb*. On D2L

Apr. 2. Fallout: The bomb in film
Apr. 4. Discussion: scale, control, and morality
Readings (your group will choose one of the following and watch it outside of class):
1) *The Atomic Café* OR
2) *Dr. Strangelove* OR
3) *Failsafe* OR
4) Another nuclear power/weapon-related film chosen by your group and approved by me.

**Week 13: Artificial Spaces**

Apr. 7. A Controlled Environment
Readings:
1) Kenneth Jackson, excerpt from *The Crabgrass Frontier*; On D2L
2) Kenneth Helphand, “McUrbia”; On D2L
3) Zukin, et al, “From Coney Island to Las Vegas.” On D2L

Apr. 9. The Magic Kingdom
Apr. 11. Discussion: artificial spaces, real lives?
Reading:
1) Watch *The Truman Show*. (Watch outside of class.)

**Week 14: Aerospace**

Reading: Manuel Castells, *Rise of the Network Society*, Prologue. On D2L
Apr. 16. The Race to the Moon
Apr. 18. Discussion: technology, progress, evolution
Reading:
1) Watch *2001: a space odyssey*. (Watch outside of class.)

**Week 15: Digital Convergence**

Apr. 21. IT and the 3rd Industrial Revolution.
Reading: Heyck, “Embodiment, Emotion, and Moral Experience.” On D2L
Apr. 23. The Computer in Film.
**FINAL PAPER/PROJECT IS DUE!**
Apr. 25. Discussion: What is real? What is human?
Readings:
1) One of the following films: *I, Robot; The Matrix; The Terminator; Tron* (the first one); *Moon*; or another film approved by me.

**Week 16: The Big Picture**

Apr. 28. Biomed/biotech (the pill)
Reading: Elaine Tyler May, *America and the Pill*, Introduction through Chapter 4, plus the Conclusion.
Apr. 30. Course wrap-up
May 2. Final discussion, course evaluation

**Final Exam:** Friday, May 9, 8-10 a.m.