

Technology & Society
ASB 398-1005 (Class number 73669)
Prof. Jamey Wetmore

Mondays and Wednesdays
3:15-4:30pm
Social Sciences Building #212

Technology is a powerful force in the modern world. It has been hailed as a way to cure everything from world hunger to bad breath. Nevertheless, technological development has not been an unqualified blessing. Technologies frequently have negative side effects. But because technology is justifiably seen as indispensable in solving current problems and ensuring a better future, societies have chosen not to abandon technology, but to shape and direct it.

This class will explore the relationship between technology and society in an effort to find ways to create better futures. We will continually pose three important questions. First, how does technology shape our world? We will explore the variety of ways by which machines and techniques become embedded in society and thereby shape institutions, relationships, and values. Second, what kind of future do we want? Many of the articles we will read argue that certain values are of key importance to a just society and challenge us to consider which values we should hold most dear and defend. And third, how can we make decisions about technology that will get us to the future we want? Once we understand the role of technology in society and the world we want to build, we must develop strategies for getting us from here to there.

The primary component of the course will be the seminar. It is imperative that you not only attend the seminars but that you also engage and participate in seminars as well. To emphasize this, a significant part of your grade (20%) will be based on your engagement in the seminar. You may be assigned specific responsibilities to facilitate discussion.

Throughout the semester you will be asked to critique and reflect on the readings in 1-2 page reaction papers. These papers are not to be summaries of what you read, but rather, your thoughts and reactions to specific points in the readings. In addition to your critique you will also need to include three questions that you think the class should discuss during the seminar. You will be asked to write 10 reaction papers that will account for 20% of your grade.

In addition to the short reaction papers, you will write two research papers. The first paper will be five to seven pages and is due on Monday, October 22nd. The paper will allow you to explore in a more in-depth and thorough manner one of the themes of the course or a case study of the relationship between technology and society and will be worth 10% of your grade.

Once that paper is completely, you will be asked to present your work to the class as a whole. Your presentation will be judged on the way you communicate your ideas and the way you handle questions and will be worth 10% of your grade.

Based on the feedback you get during the presentation and from the instructor, you will be asked to rewrite your five to seven page research paper into a six to eight page research paper. This final paper will be worth 20% of your final grade.

Finally, there will be a final exam during the exam period which will account for 20% of your total grade.

Monday, August 20

Opening class (no readings)

Visions of a Technological Future

Wednesday, August 22

Freeman J. Dyson, "Technology & Social Justice," *The Sun, The Genome, & The Internet: Tools of Scientific Revolutions* (New York: Oxford University Press, 1999), pp. 61-74.

Francis Fukuyama, "The Prolongation of Life," *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Farrar, Straus and Giroux, 2002), pp. 57-71.

Monday, August 27

E.M. Forster, "The Machine Stops," *Oxford and Cambridge Review*, November 1909, pp. 83-122.

Wednesday, August 29

Stellan Welin, "Reproductive Ectogenesis: The third era of human reproduction and some moral consequences," *Science and Engineering Ethics*, Vol. 10, No. 4, October 2004, pp. 615-626.

Monday, September 3

Labor Day, no Class

Wednesday, September 5

Interagency Working Group on Nanoscience, Engineering, and Technology
"Nanotechnology: Shaping the World Atom by Atom," September 1999, Washington D.C., pp. 1-2, 8.

Bill Joy, "Why the Future Doesn't Need Us," *WIRED*, Vol. 8, No. 4, April 2000, pp. 238-262.

The Relationship Between Technology and Society

Monday, September 10

Robert L. Heilbroner, "Do Machines Make History?" *Technology and Culture*, Volume 8, No. 3, July 1967, pp. 335-345.

Wednesday, September 12

Trevor J. Pinch and Wiebe Bijker, "The Social Construction of Facts and Artifacts" in W. Bijker, T.P. Hughes, and T.J. Pinch (eds.), *The Social Construction of Technological Systems* (Cambridge, Mass., MIT Press, 1987), pp. 17-50.

Monday, September 17

Thomas P. Hughes, "Technological Momentum," in Leo Marx and Merritt Roe Smith (eds.), *Does Technology Drive History? The Dilemma of Technological Determinism* (Cambridge, Mass.: The MIT Press, 1994), pp. 101-113.

Wednesday, September 19

Lawrence Lessig, "Code is Law," *Code: And Other Laws of Cyberspace* (New York: Basic Books, 1999), pp. 3-8.

Patrick D. Hopkins, "The Intersection of Culture, Gender, and Technology," in Patrick D. Hopkins (ed.), *Sex/Machine: Readings in Culture, Gender, and Technology* (Bloomington, Ind.: Indiana University Press, 1998), pp. 1-9.

Technology and Values

Monday, September 24

Langdon Winner, "Do Artifacts have Politics?" *The Whale and the Reactor: a Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986), pp. 19-39.

Wednesday, September 26

George Ritzer, "Control," *The McDonaldization of Society* (Thousand Oaks, CA.: Pine Forge Press, 2000), pp. 104-122.

Monday, October 1

Richard Dyer, *White* (New York: Routledge, 1997), pp.83-94.

Rachel N. Weber, "Manufacturing Gender in Commercial and Military Cockpit Design," *Science, Technology, & Human Values*, Vol. 22, No. 2, Spring 1997, pp. 235-253.

Wednesday, October 3

Daniel Sarewitz, "Pas de Trois: Science, Technology, and the Marketplace," *Frontiers of Illusion: Science, Technology, and the Politics of Progress* (Philadelphia: Temple University Press, 1996), pp. 117-140.

Monday, October 8

Jameson M. Wetmore, “Building Amish Community with Technology: Regulating Machines and Techniques to Forward Social Goals,” *Technology & Society Magazine* (in press).

The Complexity of Building Socio-Technical Systems

Wednesday, October 10

W. Patrick McCray, “Will Small Be Beautiful? Making Policies for Our Nanotech Future.” in *History and Technology*, **21**(2) (2005), pp. 177-203.

Monday, October 15

Dominique Vinck, “Socio-Technical Complexity: Redesigning a Shielding Wall,” In Dominique Vinck, ed., *Everyday Engineering: An Ethnography of Design and Innovation* (Cambridge, Mass.: The MIT Press, 2003), pp. 13-27.

Wednesday, October 17

Harry Collins and Trevor Pinch, “The Naked Launch: Assigning Blame for the Challenger Explosion,” *The Golem at Large: What you should know about Technology* (New York: Cambridge University Press, 1998) pp. 30-56.

Trevor Pinch & Harry Collins, “Crash: Nuclear Fuel Flasks and Anti-Misting Kerosene on Trial,” *The Golem at Large: What You Should Know about Technology* (New York: Cambridge University Press, 2002), pp. 57-75.

Monday, October 22

First Research Paper Due

M. Carme Alemany Gomez, “Bodies, Machines and Male Power,” in Cynthia Cockburn and Ruža Fürst Dilić (eds.) *Bringing Technology Home: Gender and Technology in a Changing Europe* (Buckingham: Open University Press, 1994), pp. 129-146.

Wednesday, October 24

John L. Pollock, “When is a Work Around? Conflict & Negotiation in Computer Systems Development,” *Science, Technology & Human Values* 30(4), Autumn 2005, pp. 1-19.

Monday, October 29

Presentations

Wednesday, October 31

Presentations

21st Century Challenges

Monday, November 5

James Davison Hunter & Joshua Yates, "In the Vanguard of Globalization: The world of American Globalizers," in Peter L. Berger and Samuel P. Huntington (eds.), *Many Globalizations: Cultural Diversity in the Contemporary World*, (New York: Oxford University Press, 2002), pp. 323-332; 343-355.

Wednesday, November 7

Fabio Salamanca-Buentello, Deepa L. Persad, Erin B. Court, Douglas K. Martin, Abdallah S. Daar, Peter A. Singer, "Nanotechnology and the World," *PLoS Medicine*, 2(5) May 2005, pp. 0383-0386.

Noela Invernizzi and Guillermo Foladori, "Nanotechnology and the Developing World: Will Nanotechnology Overcome Poverty or Widen Disparities?" *Nanotechnology Law & Business*, Vol 2., No. 3, September/October 2005, pp. 294-303.

Monday, November 12

Veterans Day, No class

Wednesday, November 14

Torin Monahan, "Questioning Surveillance and Security," *Surveillance and Security: Technological Politics and Power in Everyday Life* (New York: Routledge, 2006), pp. 1-23.

Monday, November 19

Second Research Paper Due

Roopali Phadke, "People's Science in Action: The Politics of Protest and Knowledge Brokering in India," *Society and Natural Resources* **18** (2005), pp. 363-375.

Wednesday, November 21

Paul Root Wolpe, "Neurotechnology and Brain-Computer Interfaces: Ethical and Social Implications," *Emerging Technologies and Ethical Issues in Engineering* (Washington D.C.: National Academies Press, 2004), pp. 57-65.

Vaclav Smil, "Energy in the Future: Trends and Unknowns," *Energy: A Beginner's Guide* (Oxford: Oneworld Publications, 2006), pp. 156-176.

Monday, November 26

Kristin S. Shrader-Frechette, "Introduction," *Environmental Justice: Creating Equality, Reclaiming Democracy* (New York: Oxford University Press, 2002), pp. 3-18.

Wednesday, November 28

Braden R. Allenby, "Engineering Ethics for an Anthropogenic Planet," *Emerging Technologies and Ethical Issues in Engineering* (Washington D.C.: National Academies Press, 2004), pp. 7-28.

Monday, December 3
Review for Final Exam