

**STSC 003/HSOC 003/SOCI 033 Technology and Society**  
**(Not final)**

**- Tuesday and Thursday 4:30-6:30pm, Online -**

**Instructor:**

Instructor Zachary Loeb  
Email: zloeb@sas.upenn.edu

**Office Hours:**

by appointment

**Course Description:**

Chances were always pretty good that you would be reading these words on a computer screen. However, due to the COVID-19 pandemic, you're probably reading these words not in your dorm room, off-campus apartment, or the university library, but somewhere else entirely. When this public health crisis forced universities to shift their teaching online for the rest of the semester, you were one of the students who got to experience exactly what that meant. From Zoom to Panopto, from smart thermometers to N95 masks, from respirators to live-streamed press briefings—whether you thought to contemplate it or not, this crisis has shown you numerous different ways in which technological forces have a major impact on the way we live our lives.

Often times technologies are framed as the solutions to all of the complicated problems facing a society. Something that we have seen of late as attention shifts to contact tracing, smart thermometers, and online education. But in what ways do technologies create new social problems or exacerbate old ones? What new problems are created when a society chooses to solve a complicated problem with technological means? When we believe that a particular technology will be a cure for social ills, to what extent are we simply repeating a pattern that has played out many times in history (while expecting a different result)? In what ways do technologies expose us to more risk? This course will delve into the interaction of technology and society in order to provide you with tools to make sense of the technological world around you. The goal of this course will not be to simply acquaint you with the history of technology (though it will do that too), but to help you think about technology – technologies from the past, technologies in the present, and technologies in the future. We will approach this topic by looking at broad themes and topics, considering the ways that they have been theorized at multiple points in the past (and how they are thought about in the present). In this class, we explore the ways in which technology works in the social world, and the ways it interacts with political and cultural factors. We pay attention to the dynamic relationships between technology and other domains of society such as government, commerce, philosophy, and art.

**Grade Breakdown and due dates:**

**Preliminary Reflection Paper, – 15%**

**Film Review, – 15%**

**Long Paper (“A Seventh Question”), – 30%**

**Final Reflection Paper (very short), 8/6/2021 – 5%**  
**Discussion Board Questions: 15%**  
**Participation - 20%**

### **Extension and Late Assignments Policy**

I have a no questions asked one week extension policy. Provided a student asks, at least 24 hours before the assignment is due, any student will be granted an extension of up to one week. When the student requests an extension they will be responsible for choosing a new deadline, they will be expected to turn in the assignment by that new deadline. Please note: this policy does not apply to the final reflection paper. Late assignments will be penalized by half a letter grade for each day they are late.

### **Plagiarism Policy**

Just don't do it. Please. It creates problems for you, and it creates problems for me. If you plagiarize and get caught, it has significant consequences. If you plagiarize and don't get caught you will spend the rest of your life haunted by the knowledge that you plagiarized.

### **Discussion Board/Participation**

At least 24 hours before the time of a class meeting I will post a recording of the lecture for that day. Prior to coming to class for the day you will be expected to post a question in response to the lecture/readings on Canvas (at least an hour before class starts). The actual class sessions will be focused on discussion as a group, you will be expected to come to the discussion having watched the lecture(s) and done the reading(s). As you will have watched the lectures prior to coming to class, the class sessions will not run for the scheduled two hours of class time (they will generally run for about an hour, though I will stick around for the rest of the time period to offer additional office hours).

### **University Policies and Regulations:**

I respect and uphold University policies and regulations pertaining to the observation of religious holidays, assistance available to the physically handicapped, visually and/or hearing impaired students, plagiarism, sexual harassment, and racial or ethnic discrimination. Please make yourselves familiar with the pertinent regulations and bring any questions or concerns to my attention.

**Readings:** All readings will either be posted on Canvas or will be available through the Penn Library website as e-books. You are, of course, more than welcome to purchase any of the books on this list (they're on here because they're great), but you certainly do not have to. **Please note** – readings on this list may change in response to student interest, and to changes in availability of online resources. Students will be alerted to any changes as they are made.

### **Week 1 – Introduction and Thinking about Technology and Society**

May 25 – Welcome!

- (no assigned readings)

May 27 – Key Concepts for the Course (technological determinism, technosocial system)

- Scott D.N. Cook. “Technological Revolutions and the Gutenberg Myth.” In Mark Tefik (ed). *Internet Dreams: Archetypes, Myths, and Metaphors*. (Cambridge: MIT Press, 1996). Pp. 67-82.

**Optional:**

- Neil Postman. “Technology.” In *Building a Bridge to the Eighteenth Century*. New York: Vintage Books, 1999. 36-57.
- Sally Wyatt, “Technological Determinism Is Dead: Long Live Technological Determinism,” in *Handbook of Science and Technology Studies*, ed. Edward J. Hackett et al. (Cambridge: MIT Press,, 2008), 165–80.
- Rosalind Williams. 1994. The political and feminist dimensions of technological determinism. In Smith, M.R., and Marx, L. eds., *Does Technology Drive History?* (Cambridge: MIT Press, 1994) pp. 217-235.

**Week 2 – Everyday Technologies**

June 1 – Technologies all around you (key concepts continued)!

- Ruth Schwartz Cowan. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*. New York: Basic Books, 1983. 3-15, and 192-216. (available online)
- Lewis Mumford. “Authoritarian and Democratic Technics.” *Technology and Culture*. Vol. 5, No. 1 (Winter 1964). 1-8.

June 3 – From Classroom to ClassZoom: technology during the pandemic

- A series of articles from popular publications will be posted

**Week 3 – Technologies of Freedom**

June 8 – Birth Control and Bicycles

- Andrea Tone, “Making room for rubbers: Gender, Technology and Birth Control before the Pill.” *History and Technology*, Vol 18, No. 1 (2002), 51-76.
- Trevor J. Pinch and Wiebe E. Bijker. “The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other.” In I. Bijker, E. Wiebe, T Hughes, and T Pinch. *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge: The MIT Press, 2012. (available as an e-book through the library).

June 10 – “Hacking”

- Christina Dunbar-Hester. “Geeks, Meta-Geeks, and Gender Trouble: Activism, Identity, and Low-Power FM Radio.” *Social Studies of Science*, Vol. 38. (2008)
- Bess Williamson. “Electric Moms and Quad Drivers: People with Disabilities Buying, Making, and Using Technology in Postwar America” *American Studies* Vol. 52, No. 1 (Nov. 2012): 5-30.

***Preliminary Reflection Paper Due 6/14!***

**Week 4 – Technologies of Control**

June 15– Technology and Imperialism, Technology and Colonialism

- Ramesh Srinivasan. “Technology Myths and Histories.” In *Whose Global Village? Rethinking How Technology Shapes Our World*. New York: NYU Press, 2017. 17-45.
- Kavita Philip. “The Internet Will be Decolonized.” In Thomas Mullaney, Benjamin Peters, Mar Hicks, Kavita Philip (eds). *Your Computer is on Fire*. Cambridge: The MIT Press, 2021. 91-116.

**Optional**

- Michael Adas, *Machines as the Measure of Men. Science, Technology, and Ideologies of Western Dominance* (198), pp. 221-241.
- Edward Said, *Orientalism* (1978), Introduction and ch. 1 (48 pp.)

June 17 – Algorithmic Control and Surveillance

- Ruha Benjamin. “Discriminatory Design, Liberating Imagination.” In Ruha Benjamin (ed). *Captivating Technology: Race, Carceral Technoscience, and Liberatory Imagination in Everyday Life*. Chapel Hill: Duke University Press, 2019. 1-22.
- Winifred R. Poster. “Racialized Surveillance in the Digital Surveillance Economy.” In Ruha Benjamin (ed). *Captivating Technology: Race, Carceral Technoscience, and Liberatory Imagination in Everyday Life*. Chapel Hill: Duke University Press, 2019. 133-169.

**Week 5 – The Technological Imagination and The Movies**

June 22 – Imagining Technology

- Ursula K. Le Guin “A Rant About ‘Technology’.” <http://ursulakleguinarchive.com/Note-Technology.html>
- John Perry Barlow. “A Declaration of the Independence of Cyberspace.” <https://www.eff.org/cyberspace-independence>
- David Nye. “Technological Prediction: A Promethean Problem.” In Marita Sturken, Douglas Thomas, and Sandra J. Ball-Rokeach (eds) *Technological Visions: The Hopes and Fears that Shape New Technologies*. Philadelphia: Temple University Press, 2004. 159-176.

June 24 – Technology at the Movies!

- Vivian Sobchack. “Science Fiction Film and the Technological Imagination.” In Marita Sturken, Douglas Thomas, and Sandra J. Ball-Rokeach (eds) *Technological Visions: The Hopes and Fears that Shape New Technologies*. Philadelphia: Temple University Press, 2004. 145-158

**Optional**

- Susan Sontag. “The imagination of disaster,” in *Against Interpretation and Other Essays*. New York: Picador Press, 1966. 209-225.

**Week 6 – Infrastructure, the Environment, and Waste**

June 29 – Infrastructure!

- Lee Vinsel and Andrew L. Russell. “Slow Disaster: What the Neglect of Maintenance is Doing to our Infrastructure.” In *The Innovation Delusion: How Our Obsession with the New Has Disrupted the Work that Matters Most*. New York: Currency Books, 2020. 60-80.

**Optional:**

- Nicole Starosielski “Fixed Flow: Undersea Cables as Media Infrastructure.” In Lisa Parks and Nicole Starosielski (eds). *Signal Traffic: Critical Studies of Media Infrastructures*. Urbana: University of Illinois Press, 2015. 53-70.

July 1 – The Environment and Waste

- Nathan Ensmenger. “The Environmental History of Computing.” *Technology and Culture*. Vol. 59, No. 4 (October 2018). St-S33.
- Kate O’Neill. “The Global Political Economy of Waste.” In *Waste*. London: Polity Press, 2019. 1-24.

***Film Review due by 7/5!***

**Week 7 – Risk and Disasters**

July 6 – Technological Disasters

- Scott Gabriel Knowles. “Learning from Disaster? The History of Technology and the Future of Disaster Research.” *Technology and Culture*. October 2014, vol. 55 773-784.

**Optional:**

- Sara B. Pritchard. “An Envirotechnical Disaster: Nature, Technology and Politics at Fukushima.” *Environmental History* 17, no. 2 (April 2012) 219-243.

July 8 – Normal Accidents: Challenger and Y2K

- Ann Larabee. “‘Nothing Ends Here’: Managing the *Challenger* Disaster.” In Steven Biel (ed). *American Disasters*. New York: NYU Press, 2001. 197-220.
- Zachary Loeb. “The Lessons of Y2K: 20 Years Later.” *The Washington Post*. December 30, 2019. <https://www.washingtonpost.com/outlook/2019/12/30/lessons-yk-years-later/>

**Optional**

- Charles Perrow. “Introduction.” *Normal Accidents: Living with High-Risk Technologies*. Princeton: Princeton University Press, 1999. Read 3-14.

**Week 8 – War and Technology’s Critics**

July 13 – War! What is it good for? Technology.

- David Edgerton. “War.” In *The Shock of the Old: Technology and Global History Since 1900*. Oxford: Oxford University Press, 2007. 138-159.

July 15 – No General but Ludd

- Chellis Glendinning. “Notes toward a Neo-Luddite Manifesto.” In Robert Scharff, Robert and Val Dusek (eds) *Philosophy of Technology: The Technological Condition – An Anthology*. (Massachusetts: Blackwell Publishing, 2003).
- Gavin Mueller. “Decelerate Now.” *Logic*, No. 12 (Winter 2020). 145-152.

**Optional:**

- Eric Hobsbawm. “The Machine Wreckers.” *Past & Present*, no. 1 (Feb, 1952) 57-70

**Week 9 – Computers and the Internet**

**July 20 – Computers**

- Mar Hicks. “Sexism is a Feature, Not a Bug.” In Thomas Mullaney, Benjamin Peters, Mar Hicks, Kavita Philip (eds). *Your Computer is on Fire*. Cambridge: The MIT Press, 2021. 135-158.

**Optional:**

- Martin Campbell-Kelly, William Aspray, Nathan Ensmenger, and Jeffrey Yost. *Computer: a History of the Information Machine (third edition)*. New York: Routledge, 2018. Chapters 4 and 10 (available online)

**July 22 - The Internet**

- Benjamin Peters. “A Network is not a Network.” In Thomas Mullaney, Benjamin Peters, Mar Hicks, Kavita Philip (eds). *Your Computer is on Fire*. Cambridge: The MIT Press, 2021. 71-90.

**Optional:**

- Janet Abbate. “Government, Business, and the Making of the Internet.” *The Business History Review*. Vol. 75, No. 1 (Spring 2001). 147-176.

## **Week 10 – Robots and AI**

July 27 – The robots are coming! The robots are coming!

- Safiya Noble. “Your Robot Isn’t Neutral.” In Thomas Mullaney, Benjamin Peters, Mar Hicks, Kavita Philip (eds). *Your Computer is on Fire*. Cambridge: The MIT Press, 2021. 199-212.

### **Optional:**

- Minsoo Kang. “Chapter 7 – The Revolt of the Robots.” *KaSublime Dreams of Living Machines: The Automaton in the European Imagination*. Cambridge: Harvard University Press, 2011. 264-296.
- Neda Atanasoski and Kalindi Vora. “Chapter 6: Killer Robots.” *Surrogate Humanity: Race, Robots, and the Politics of Technological Futures*. Chapel Hill: Duke University Press, 2019. 163-187.

July 29 – Artificial Intelligence

- Meredith Broussard. “This Car Won’t Drive Itself.” In *Artificial Unintelligence: How Computers Misunderstand the World*. Cambridge: The MIT Press, 2018.
- Sarah Roberts. “Your AI is a Human.” In Thomas Mullaney, Benjamin Peters, Mar Hicks, Kavita Philip (eds). *Your Computer is on Fire*. Cambridge: The MIT Press, 2021. 51-70.

***Long Paper (“A Seventh Question”) due by July 30, 2020!***

## **Week 11 - The future? The Future!**

August 3

- Ruha Benjamin. *Race After Technology*. London: Polity Press, 2019. Chapter 5.
- Sasha Costanza-Chock. “Directions for Future Work: From #TechWontBuildIt to #DesignJustice.” In *Design Justice*. Cambridge: The MIT Press, 2020. 211-236.

August 5 – concluding thoughts

- (no readings)

***Final Reflection Paper (very short) due 8/6!***