

Instructor: Dr. Linus Huang
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Readers: Xuan Jin, Darrell Valor & Seth Leibson
Final Exam: See below.

Course Overview

Technology is generally viewed in terms of material objects—automobiles, handguns, nuclear warheads, remote-controlled drones, smartphones, etc.—that exist independently of humans. Certain consequences, not only academic/intellectual but also practical and political, result from viewing technology in this way. The central premise of a sociological approach to technology is that these material objects are inextricably bound up in social relations; these material objects, plus the practices and relations that sustain them, are together referred to as *sociotechnical systems*.

This course will investigate the nature of sociotechnical systems. We will follow a thematic outline laid out by Deborah G. Johnson and Jameson M. Wetmore in their edited volume *Technology and Society: Building Our Sociotechnical Future*. **First**, we will consider the way that views of technology either implicitly or explicitly entail visions of the future of human society. **Second**, we will consider the relationship between technology and society and look at different theoretical frameworks that have been developed to explore this relationship. As part of this stretch of the course, we will look at the way that *values* are embedded within technologies which we otherwise think of as value-neutral—addressing the question of, as Langdon Winner puts it, “do artifacts have politics?” **Third**, we will look at case studies for how sociotechnical systems are constructed, illuminating the ways that social values—and power—are embedded within technologies. **Finally**, we will look at societal challenges involving contemporary sociotechnical systems, including the workplace, nanotechnology, surveillance, and sustainable energy.

Required Readings

There are no textbooks or readers for this course. All readings are in PDF format on the bcourses site. Look in the “READINGS” folder on the Files page.

Course Format

This is a lecture course and I will indeed do a fair amount of lecturing. However, class participation is expected and will make everyone’s experience far, far, more enlightening, not to mention enjoyable.

There are a lot of readings and they will provide a solid foundation for the material you will be responsible for on the exams. However, I will also present a lot of additional material in class. **You will be responsible for this additional material on the exams, as well.** Therefore, class attendance and participation are crucial to success in the course.

Grading

Your course grade will be determined by two (2) midterm exams (30% each) and a final exam (40%). **All exams will be take-home exams.** (See the schedule below for exam dates and times.)

All three exams will be of a short answer variety, where “short answer” roughly means from one to four paragraphs per question. As I will reiterate in class, you should strive for clarity but also succinctness in these short answers. You should feel free to write in a conversational tone and dispense with formal writing conventions such as formal opening and concluding paragraphs.

The grading scale is as follows. All scores are significant to the second digit after the decimal. ‘[’ means including, and ‘)’ means excluding, so ‘[83-87)’ for example means everything from 83.00 up to but not including 87.00.

		A	[94+	A-	[90-94)
B+	[87-90)	B	[83-87)	B-	[80-83)
C+	[77-80)	C	[73-77)	C-	[70-73)
D+	[67-70)	D	[63-67)	D-	[60-63)
		F	[0-60)		

I will use the bcourses site to keep a record of your scores, so as midterm scores are released, make sure that what is on bcourses matches what is on your actual returned paper/exam. If there is a problem, report it immediately. Do not wait until the end of the semester to report an issue with either of the midterms.

Note: There are no other discretionary considerations that factor in to the calculation of your course grade. As the course progresses, you can calculate your performance for yourself, given the weightings indicated above, and determine exactly what you need to do on subsequent graded assignments to get X grade.

International Students + Students with Disabilities

Students with disabilities requesting accommodations must have their statuses verified by the DSP office by **Wednesday, September 10th**. Electronic copies of these letters are automatically sent to me; I do not require a paper hardcopy of them.

The course will require a modest degree of English writing proficiency during the three examinations. If you are an ESL student for whom this may prove difficult, accommodations can be made provided you get in touch with me at the beginning of the semester.

Resources

Writing for Sociology. Although this course will not be as writing-intensive as others, writing will still be important on the exams. Graduate students and faculty in the sociology department at Berkeley have put together a writing guide specifically geared toward sociology students. It is intended for longer-form writing assignments, but could still be useful for the short-answer (e.g., 1-4 paragraphs) questions that will be on the exams.

The URL for this guide is: <http://sociology.berkeley.edu/undergraduate-writing-resources>.

Student Learning Center. The campus Student Learning Center (SLC) offers various services for both ESL and native-speaking students. See their website at:

<http://slc.berkeley.edu/ucftr/index.htm>

and in particular their writing resources at:

<http://slc.berkeley.edu/writing/index.htm>.

International Students. The Berkeley International Office offers a variety of services, including ESL resources. See their website at:

<http://internationaloffice.berkeley.edu/>

And note their English Language Resources section, drawn from various online resources throughout the U.S.

http://internationaloffice.berkeley.edu/english_resources

Academic Honesty and Other Issues

Don't cheat. Part of the University's suggested language for a student honor code is "always to act in such a way that no one would ever imagine that you would even consider cheating". **Copying off another student's test**, and **plagiarism** (copying text or ideas from other sources and passing them off as your own and/or omitting proper attributing) have been the two most common—but not only—forms of cheating I have encountered. **Such transgressions will be penalized with an immediate zero on the assignment in question**, which will for all practical purposes result in failure of the course, *plus* notification to the Office of Student Affairs at my discretion.

Use of laptops, tablets, smartphones, etc. in class. I use my laptop for virtually everything and do not expect students not to utilize the various digital technologies we have at our disposal today. However, if you are texting, Twittering, watching Netflix, or some other such thing in class, you are likely distracting others and I will ask you to leave.

Reading/Exam Schedule

As indicated above, all readings are available in PDF format on the bCourses site. They are to be completed **prior** to the class meeting by which they are listed.

Introduction

Aug	29	Fri	Introduction: what is "technology"? <i>Reading: none</i>
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Sep	1	Mon	##### LABOR DAY: NO CLASS #####
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	3	Wed	Introduction, cont'd <i>Reading: none</i>
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	5	Fri	Technology and the future: progress? <i>Reading: Bill Joy, "Why the Future Doesn't Need Us"</i>
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	8	Mon	Technology and the future: technology's impact on society? <i>Reading: Francis Fukuyama, "The Prolongation of Life"</i>
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What is the Relationship Between Technology and Society?

Sep	10	Wed	Technological determinism <i>Reading: Robert Heilbroner, "Do Machines Make History?"</i>
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	12	Fri	(cont'd, no new readings)
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Sep	15	Mon	The social construction of technology <i>Reading:</i> Trevor Pinch & Wiebe E. Bijker, “The Social Construction of Facts and Artifacts”
	17	Wed	(cont’d, no new readings)
	19	Fri	Actor-network theory <i>Reading:</i> Bruno Latour, “Mixing Humans and Nonhumans Together”

	22	Mon	Can technologies have values? <i>Reading:</i> Langdon Winner, “Do Artifacts Have Politics?”
	24	Wed	Has technology brought social progress? <i>Reading:</i> Daniel Sarewitz, “Pas de Trois: Science, Technology, and the Marketplace”
	26	Fri	(cont’d, no new readings)

Midterm #1 Take-Home Exam online Fri. Sep. 26 10:00 AM

The Construction of Sociotechnical Systems

Sep	29	Mon	Technological innovation <i>Reading:</i> Fred Block & Matthew Keller, “Where Do Innovations Come From?”
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Oct	1	Wed	(cont’d, no new readings)
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Midterm #1 Take-Home Exam due Wed. Oct. 1 8:00 AM

	3	Fri	Has commerce compromised science? <i>Reading:</i> Steven P. Vallas & Daniel L. Kleinman, “Contradiction, convergence, and the knowledge economy”
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	6	Mon	(cont’d, no new readings)
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	8	Wed	Why do we not like genetically engineered foods? <i>Reading:</i> Rachel Schurman & William Munro, “Ideas, Thinkers, and Social Networks”
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	10	Fri	(cont’d, no new readings)
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	13	Mon	Organizational culture and the Space Shuttle <i>Challenger</i> disaster <i>Reading:</i> Diane Vaughan, “The Trickle-Down Effect”
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	15	Wed	(cont’d, no new readings)
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	17	Fri	How the automobile won the American city <i>Reading:</i> Peter D. Norton, <i>Fighting Traffic</i> ch 1, 3
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	20	Mon	How the automobile won the American city, cont’d <i>Reading:</i> Peter D. Norton, <i>Fighting Traffic</i> ch 7, 8
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	22	Wed	(cont’d, no new readings)
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Oct 24 Fri Gender and technology
Reading: M. Carme Alemany Gomez, "Bodies, Machines, and Male Power"

27 Mon (cont'd, no new readings)

29 Wed What was the Internet designed for?
*Reading: Janet Abbate, *Inventing the Internet* ch 3*

31 Fri (cont'd, no new readings)

Midterm #2 Take-Home online Fri. Oct. 31 10:00 AM

Nov 3 Mon Does technology isolate us? Yes, it does.
*Reading: Sherry Turkle, *Alone Together* intro + ch 8*

5 Wed (cont'd, no new readings)

Midterm #2 Take-Home due Wed. Nov. 5 8:00 AM

7 Fri Does technology isolate us? No, it doesn't.
Reading: Keith Hampton, Lauren Sessions & Eun Ja Her, "Core Networks, Social Isolation, and New Media: How Internet and mobile phone use is related to network size and diversity"

10 Mon (cont'd, no new readings)

Contemporary Challenges

Nov 12 Wed Nanotechnology, Part I
Reading: Fabio Salamanca-Buentello, Deepa L. Persad, Erin B. Court, Douglas K. Martin, Abdallah S. Daar & Peter A. Singer, "Nanotechnology and the Developing World"

14 Fri Nanotechnology, Part II
Reading: Noela Invernizzi & Guillermo Foladori, "Nanotechnology and the Developing World: Will Nanotechnology Overcome Poverty or Widen Disparities?"

17 Mon (cont'd, no new readings)

19 Wed Technology, work, and inequality
*Reading: Eric Brynjolfsson & Andrew McAfee, "Why Workers are Losing the War Against Machines" *The Atlantic* 26 Oct 2011*

21 Fri (cont'd, no new readings)

24 Mon Surveillance
*Reading: Marc Herman, "A Security Scholar Talks About the NSA Scandal" *Pacific Standard* 11-12 Jun 2013*

Nov	26	Wed	##### INSTRUCTOR CANCELLED #####
	28	Fri	##### THANKSGIVING: NO CLASS #####
Dec	1	Mon	Sustainable energy <i>Reading:</i> David Elliott, “Energy, Society, and the Environment: Technology for a Sustainable Future”
	3	Wed	Environmental justice <i>Reading:</i> Kristin Shrader-Frechette, “Introduction” to <i>Environmental Justice: Creating Equality, Reclaiming Democracy</i>
	5	Fri	Wrap-up and course evaluations
	8	Mon	READING,
	10	Wed	RECITATION, and
	12	Fri	REVIEW
	14	Mon	Take-Home Final Exam online Mon. Dec. 15 12:00 PM
	18	Thu	Take-Home Final Exam <u>due</u> Thu. Dec. 18 10:00 PM