

## Sociology 166 Society & Technology

Spring 2024 | UC Berkeley

**Instructor:** Professor Linus Huang, Lecturer

**Office Hours:**

- *in-person, strictly drop-in:* Mondays, 10:00-11:45 AM, 487 Social Sciences Building
- *Zoom, appointment needed:* Tuesdays, 1-3 PM, sign up on Google Calendar

**Email:** [lbhuang@berkeley.edu](mailto:lbhuang@berkeley.edu)

**Graduate Student Readers:** Maggie Fuller, Ruhao Peng

**Final Exam:** online, as bCourses quiz, May 7, 2024 11:30 AM-2:30 PM

### What will this course be about?

Does technology bring people together, or drive them apart? Does it empower workers, or create mass unemployment? Are we being backwards and anti-progress if we decline to adopt a new technology? To ask questions like these is to ask about the relationship between society and technology. Another question we can ask about this relationship: is it unilateral in either direction—that is, do technologies have deterministic effects on society or, conversely, do they always represent objectives precisely engineered by social actors?

The premise of this course is that we typically think about the relationship between society and technology, whether explicitly or implicitly, in terms of the principle of **technological determinism**—that particular technologies of necessity cause particular social effects. This course proceeds as a criticism of technologically deterministic accounts of the relationship between society and technology. We will consider what it means to say that, by contrast, technology is **socially constructed**, and why a constructed-ness perspective as opposed to a deterministic perspective matters for traditional sociological questions about social solidarity, inequality, democracy, environment, and development.

### Readings

All readings for this course will be available on the course website in PDF format. There are no textbooks or paper course readers to purchase.

In an effort to keep the amount of required reading contained, I have both (a) made an effort to identify excerpts from longer articles and books to assign; and (b) in some cases assigned a shorter, accessible reading (think: a newspaper article) that summarizes a longer, technical reading, instead of assigning the latter. (Having said that, for some topics the reading volume will be longer than for others.)

The required readings are designed to give you an accessible, basic story. Additional, more technical material will typically be left for presentation during lecture. On exams, you will be responsible for both the content in the readings as well as the supplemental content presented in lecture.

## Grading

Your course grade will be determined by the following components:

**An educational technology survey (5%).** To stimulate discussion for a topic on whether technology improves education, you will tell me about your personal experiences with and opinions about the use of technology in education, for a graded survey administered over bCourses. More information will on this survey will be given over the first meetings for the course.

**Two take-home midterm exams (19% each, 38% total).** These exams will come at roughly the one-third and two-thirds marks of the semester. Each will be a take-home-, “short answer”- (think: 4 questions, each 1 or 2 pages) style exam. More information on the format and content of these exams will be given as the semester progresses.

**An educational technology analysis “brief” (19%).** For this assignment, you’ll be asked to explore in more depth questions about technology in education. Although there are certain parameters of this assignment that you will decide for yourself, there are specific themes and other questions you will be required to address. More details will come as the semester progresses.

In terms of written work, my philosophy is to favor shorter, concise writing assignments rather than term paper-type assignments. I will explain this in further detail at the beginning of the semester. But, this is why I am calling this assignment a “brief” as opposed to a “paper”, the latter of which might trigger a mode of writing I would like people to avoid for this course.

**A generative AI analysis brief (19%).** Much of higher education is fretting over the use of generative AI applications like the ChatGPT bot to cheat. I share many of these concerns **and spell out restrictions on the use of ChatGPT and the like below**. However, this is a course on society and technology and I feel it would be inappropriate to treat ChatGPT simply as something whose existence should be denied.

This assignment therefore is designed to familiarize us (to the extent that we’re not already) with the ChatGPT bot and in particular to develop an understanding of how to use the bot to produce useful answers to complex questions—sociological questions, in this case. More details will come as the semester progresses.

**A final exam (19%).** The final exam for Soc 166 will be 100% multiple choice and cumulative. It will be administered during the University’s officially scheduled timeslot of **Tuesday, May 7, 2023, 11:30 AM-2:30 PM**. However, it will be administered online, as a bCourses/Canvas quiz.

The course grading scale is as follows:

A+	97+	A	93-96	A-	90-92
B+	87-89	B	83-86	B-	80-82
C+	77-79	C	73-76	C-	70-72
D+	67-69	D	63-66	D-	60-62
		F	0-59		

When it comes time to compute overall course grades, I will round to the nearest whole number using standard rounding conventions—89.49 rounds down to 89 and a B+, 89.50 rounds up to 90 and an A-, etc. It doesn't really matter what the letter grade on the individual assignments are.

There are no other discretionary considerations, nor opportunities to earn extra credit on an individual basis, that will factor into your grade. I will not entertain any requests for such opportunities.

There are no surprises in how I calculate course grades. The GRADES section on bCourses will incorporate the weightings above and will accurately keep you apprised of your course progress.

**Late grade policy:** Work submitted late will be marked down 20% for each 24-hour period the assignment is overdue.

### Disabled Students Program

DSP students should have their arrangements made by the third week of instruction. The DSP office will automatically send me a digital copy of your letter, with explanation of your accommodations. It will not be necessary to also provide me with a physical copy of the letter.

### Recommendation Letters

Writing recommendation letters is part of an instructor's job and one which I embrace readily. However, it is difficult for me, and unhelpful to all parties involved, to write letters for students I do not know very well. I can and have exercised the discretion to decline to write letters when I don't know students beyond what grades they've earned in the course. If you anticipate asking me to write a letter, it is in your interest to participate in class discussion, visit me during my office hours, etc., and let me know what your plans and interests are above and beyond course material.

## Academic Honesty & Classroom Conduct

The UC Berkeley Honor Code states that “As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others”

(<https://teaching.berkeley.edu/berkeley-honor-code>). I expect you will follow these principles. You may not copy specific text or ideas from others, whether from fellow students, from authors of our readings or other material you find, without specific attribution. To do otherwise is to plagiarize. You may not cheat on any of the exams by bringing in illicit outside material, copying from fellow students, or engaging in other dishonest practices. Violation of these rules will result in an immediate **-0-** on the assignment in question, plus a report to the Office of Academic Affairs at my discretion.

You may of course discuss the lectures and readings with your fellow students. Forming studying groups on your own is encouraged, especially as there are no discussion sections to accompany this course. If these groups are used to struggle through ideas or debate topics (both are also good uses of class time, by the way!), then the effort expended can be very rewarding. However, if groups are used simply to “free ride” off a classmate’s work, **this is effectively another form of plagiarism** as far as I am concerned.

Study group meetings should be suspended during periods where a take-home exam is active. They can begin again after the exam due date has been reached.

### Use of generative AI (e.g., ChatGPT) is RESTRICTED.

Generative AI is one of the most-talked about technologies in society today. This is a course on society and technology, so my position will not simply be to exclude it. We will even have an assignment that will require you to use the ChatGPT bot to generate output according to specified parameters (see above).

**However**, for assignments, including exams, other than this one, I will require your use of ChatGPT and other generative AI (also known as AI based on *large language models*, or LLMs) to be **highly constrained**. For these assignments, your use of generative AI is restricted to:\*

- correcting grammar
  - Though, note that you will not be graded for spelling or grammar *per se* on any of the course assignments, unless they are so incoherent that we cannot understand your argument.
- explaining unfamiliar terms in readings
- generating practice quiz questions

\*Here I am following guidelines developed by Professor Heather Haveman for her undergraduate courses.

Any other use of generative AI outside the rules explained above **will constitute a violation of academic conduct** (see previous section).

## Reading, Assignment, and Exam Schedule

All readings listed below are required unless otherwise noted, and should be completed prior to the first meeting of the associated topic.

### **Introduction: how we *misunderstand* the relationship between technology and society**

Jan 17, 19

*No readings.*

### **Introduction, cont'd: what is meant by *the social construction of technology*?**

Jan 22, 24

*No readings.*

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### **Does technology cause social isolation?**

Jan 26, 29, 31

*Read:*

- Sherry Turkle, *Alone Together* introduction
- Keith Hampton, Lauren Sessions, Eun-Ja Her & Lee Rainie, “Social Isolation and New Technology”
- Heather Schwedel, “How Meet Cutes Have Changed in the 21<sup>st</sup> Century” *Slate* Jul 15 2019
  - This piece from the online magazine *Slate* summarizes research by Michael Rosenfeld & Reuben J. Thomas. We will look at findings from Rosenfeld & Thomas’ 2012 study “Searching for a Mate” in lecture.

## **Educational Technology Survey due Friday, Feb 2 2024**

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### **Does social media cause polarization?**

Feb 2, 5, 7, 9

*First, read:* Yochai Benkler, *The Wealth of Networks* ch 6 “The Trouble with Mass Media” and ch 7 “Emergence of the Networked Public Sphere”

To understand what effect social media has had on civil society, it is useful to understand what effect we *thought* social media would have, in the earlier days of the Internet/World Wide Web. This argument by Benkler, a legal scholar, seems profoundly inaccurate with the benefit of hindsight. But it provides a useful baseline nonetheless.

Then, read (by the 5<sup>th</sup>):

- Steve Lohr, “It’s True: False News Spreads Faster and Wider. And Humans Are to Blame” *The New York Times* Mar 8 2018
  - This piece summarizes a study published in *Science* by Soroush Vosoughi, Deb Roy & Sinan Aral. We will look at the Vosoughi/Roy/Aral study in further detail in lecture.
  - If social media is associated with polarization, then one question is whether the issue is with social media *users* or with social media *platforms*. This is the *users* side of the story.
- Keach Hagey & Jeff Horwitz, “Facebook Tried to Make Its Platform a Healthier Place. It Got Angrier Instead.” *The Wall Street Journal* Sep 15 2021
  - This is the *platforms* side of the story.

**Midterm #1 released on bCourses Friday, February 9, 2024**

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### **Does technology improve educational outcomes?**

Feb 12, 14, 16

Read:

- A 2009/10 debate about creating an all-online UC campus:
  - Marc Beja, “Online Campus Could Solve Many U. of California Problems, a Dean Says” *The Chronicle of Higher Education* Jul 22 2009
  - “Creator of Berkeley’s First On-Line Course Tells All” Remaking the University blog, Aug 11 2010 (Prof. Philip Stark)
  - Prof. Wendy Brown, presentation to Graduate Student Association Forum on the Cyber Campus, Oct 11 2010
- The problem (?) with educational technologies:
  - Ben Fink & Robin Brown (2016), *The Problem with Educational Technology* (Hint: It’s Not the Technology)

**Midterm #1 DUE on bCourses Tuesday, February 13, 2024 @ 11:59 PM**

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### **Does social media activism work?**

Feb 21, 23

No class on Monday, Feb 19 2024.

Read:

- Clay Shirky, *Here Comes Everybody* ch 1 “It Takes a Village to Find a Phone”
  - Malcolm Gladwell, “Small Change: Why the revolution will not be tweeted” *The New Yorker* Oct 4 2010
  - Thomas Friedman, “Social Media: Destroyer or Creator?” *The New York Times* Feb 3 2016
  - Zeynep Tufekci, *Twitter and Tear Gas* ch 3 “Leading the Leaderless”
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## The Social Construction of Technology perspective

Feb 26, 28

*Read:*

- Trevor Pinch & Wiebe Bijker (1984), “The Social Construction of Facts and Artefacts”
- Hans K. Klein & Daniel Lee Kleinman (2002), “The Social Construction of Technology: Structural Considerations”

**Educational Technology Analysis Brief due on bCourses Friday, March 1, 2024**

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## How did automobiles win the city?

Mar 1, 4, 6

*Read:*

- Peter Norton, *Fighting Traffic* introduction “What Are Streets For?”
  - Andrew Ng, “Self-driving cars are here” Medium May 7 2018
  - Peter Norton, “Self-driving car developers should put pedestrians first” *Wired* Sep 15 2018
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## Can we develop risky technologies safely?

Mar 8, 11, 13

*Read:*

- Thomas E. Wellock (2021), *Safe Enough? A History of Nuclear Power and Accident Risk* excerpts TBD
  - Diane Vaughan (1997), “The Trickle-Down Effect: Policy Decisions, Risky Work, and the *Challenger* Tragedy”
  - Charles Perrow (1984), *Normal Accidents* ch 9 “Living with High-Risk Systems”
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**ChatGPT Analysis Brief due on bCourses Friday, March 15, 2024**

**Will artificial intelligence take our jobs?**

Mar 15, 18, 20, 22

*Read:*

- Cal Newport, “What Kind of Mind Does ChatGPT Have?” *The New Yorker* Apr 13 2023
  - Brookings Institute, “Automation and Artificial Intelligence” Jan 2019
  - Kevin Roose, “Andrew Ng’s 2020 Campaign Message: The Robots Are Coming” *The New York Times* Feb 10 2018
  - Ezra Klein, “Technology is changing the way we live, but it needs to change the way we work” *Vox* May 25 2016
  - The social conflict lying under generative AI development in Silicon Valley:
    - Nitish Pahwa, “Everything We Know About OpenAI’s Shocking Ouster of Sam Altman” *Slate* Nov 17 2023
    - Kevin Roose, “A.I. Belongs to the Capitalists Now” *The New York Times* Nov 22 2023
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**SPRING BREAK: March 25-29**

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**Why are we skeptical of genetically engineered food?**

Apr 1, 3, 5

*Read:*

- Greenpeace International, “Seven myths about GM crops, and the truth behind them” Nov 2015
- Brad Plumer, “5 big takeaways from the most thorough review of GMOs yet” *Vox* May 18 2016
- Mark Lynas, *Seeds of Science: Why we got it so wrong on GMOs* ch 7 “The Rise and Rise of the Anti-GMO Movement”

**Midterm #2 released on bCourses Friday, April 5, 2024**

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**Why is coding so male?**

Apr 8, 10, 12

*Read:*

- James Damore, “Google’s Ideological Echo Chamber” Jul 2017
- Sahil Chinoy & Chloe Weiner, “What does a hacker look like?” *The Daily Californian* Nov 14 2016
- Clive Thompson, “The Secret History of Women in Coding” *The New York Times Magazine* Feb 13 2019
  - *Strictly optional, we won’t even talk about this in lecture much:* Kelsey Piper, “The conversation about diversity in tech is getting hijacked by bad research” *Vox* Feb 20 2019 <https://www.vox.com/2019/2/20/18232762/gender-diversity-tech-bad-research-recruiting-new-york-times>. This was in direct response to the Thompson NYT article.

**Midterm #2 DUE on bCourses Tuesday, April 9, 2024 @ 11:59 PM**

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**Where do technological innovations come from?**

Apr 15, 17, 19

*Read:*

- Gordon Crovitz, “Who Really Invented the Internet?” *The Wall Street Journal* Jul 22 2012
- Michael Hiltzik, “So, Who Really Did Invent the Internet?” *The Los Angeles Times* Jul 23 2012
- Matt Ridley, “The Myth of Basic Science” *The Wall Street Journal* Oct 23 2015
- Jacob S. Hacker & Paul Pierson, “Why Technological Innovation Relies on Government Support” *The Atlantic* Mar 28 2016

In lecture we will look in-depth at a 2008 study by Fred Block & Matthew R. Keller, “Where Do Innovations Come From? Transformations in the U.S. National Innovation System, 1970-2006” (The Information Technology & Innovation Foundation, Jul 2008).

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**What does it mean that science is “paradigmatic”? Is this good or bad?**

Apr 22, 24, 26

*Read:* Thomas Kuhn (1962), *The Structure of Scientific Revolutions* preface + pp. 1-22

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**Reading, Recitation, and Review (no class): April 29-May 3**

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**Final Exam: online, Tuesday, May 7, 2024 11:30 AM-2:30 PM**