

University of Wisconsin-Madison
History of Science 150: The Digital Age
Fall 2024

Course Canvas: <https://canvas.wisc.edu/courses/427527>

Instructor

Prof. Devin Kennedy
dbkennedy@wisc.edu

Teaching Assistant Bennett McIntosh bamcintosh@wisc.edu	Teaching Assistant Yu-Hsuan “Jade” Wang yuhuan.wang@wisc.edu
Teaching Assistant Yuji Xu yuji.xu@wisc.edu	Teaching Assistant Saul Zuniga sfzuniga@wisc.edu

Required Course Meetings:

Lectures (attendance taken periodically for bonus points)

Mondays 9:55-10:45am Microbial Sciences Building 1220
Wednesdays 9:55-10:45am Microbial Sciences Building 1220

Discussion Sections (Check your registration—attend assigned section; attendance taken)

DIS 301	Wednesdays 11-11:50am	1125 Nancy Nicholas Hall
DIS 302	Wednesdays 12:05-12:55pm	140 Van Hise Hall
DIS 303	Wednesdays 1:20-2:10pm	2121 Mosse Humanities
DIS 304	Wednesdays 2:25-3:15pm	2101 Mosse Humanities
DIS 305	Wednesdays 3:30-4:20pm	2221 Mosse Humanities
DIS 306	Wednesdays 4:35-5:25pm	2221 Mosse Humanities
DIS 307	Thursdays 8:50-9:40am	2241 Mosse Humanities
DIS 308	Thursdays 9:55-10:45am	2619 Mosse Humanities
DIS 309	Thursdays 11:00-11:50am	2115 Mosse Humanities
DIS 310	Thursdays 12:05-12:55pm	2241 Mosse Humanities
DIS 311	Thursdays 1:20-2:10pm	2125 Mosse Humanities
DIS 312	Thursdays 2:25-3:15pm	2653 Mosse Humanities
DIS 313	Thursdays 3:30-4:20pm	2631 Mosse Humanities
DIS 314	Thursdays 4:35-5:25pm	2619 Mosse Humanities
DIS 315	Fridays 8:50-9:40am	2221 Mosse Humanities
DIS 316	Fridays 9:55-10:45am	2619 Mosse Humanities

Course Description:

This course introduces the history of the computer and its social consequences from the 1940s to the present day. Over the course of the semester, students will become familiar with major developments in computer science and technology in their historical contexts, as well as recent trends in computing and society. We learn about machines, but emphasize the study of people: the institutions, scientists, workers, and social movements that invented, facilitated, and transformed digital technology in the 20th and early 21st century.

Office Hours:

For questions and general discussion of course material with the teaching team

Prof. Kennedy:

Tuesdays 11-1 in 4127 Mosse Humanities

Appointments preferred:

<https://calendly.com/devinkennedy/officehours>

TAs:

Please see Canvas

Required Texts

- Margaret O'Mara, *The Code: Silicon Valley and the Remaking of America* (Penguin, 2019, Paperback 2020) \$20 [Any format]

Learning Outcomes

Students, upon successful completion of the course, will be able to:

- Identify key technological developments, periods, and themes in the history of computing
- Engage primary cultural and technical sources from the history of technology in the 20th century
- Analyze ongoing developments in computer science and digital technology with historical and critical perspective
- Write and speak conscientiously about digital technology's effects in society
- Recognize a range of factors that contribute to technological change

Course Details

Prerequisites: None

Course Designation: Breadth - Humanities

Level: Elementary

Credits: 3

Modality: In-person

Credit Hour Details

This class meets for three, 50-minute class periods each week (2 lectures, 1 discussion) and carries the expectation that students will work on course learning activities (reading, writing, watching supplemental video material and responding to quizzes on canvas, working on writing assignments studying for examinations) for about **2 hours out of the classroom for every class period (about 6 hours per week)**.

Academic Integrity

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

Use of AI Tools Prohibited

While AI tools have uses, they are often sloppy and error-prone, for instance “hallucinating” fake historical events and sources. Moreover, to use them is to skip the work that will get you the most benefit from this class. This course will exercise your ability to write and reason about complex ideas and events. Practicing core skills of argumentation, close reading, and writing will enhance your abilities as a student, and in every field that comes after.

For these reasons, the use of artificial intelligence (AI) tools and applications (including, but not limited to, ChatGPT, DALL-E, and others) for course assignments and assessments does not support the learning objectives of this course and *is prohibited*. Using them without explicit permission by the instructors for this course is a violation of the course’s expectations and will be addressed through UW–Madison’s [academic misconduct policy](#), specifically UWS 14.03(1)b (b) Uses unauthorized materials or fabricated data in any academic exercise.

Accessibility and Diversity

Our mission is to teach students and to provide a classroom environment enlivened by your presence, where you feel heard and supported. I am committed to providing any accommodations that will enable you to thrive in our course, including but not limited to those requested through the McBurney Disability Resource Center. If you are in need of additional accommodations, please feel free to speak with Professor Kennedy, or the McBurney Center

The McBurney Disability Resource Center Phone: (608) 263-2741 Address: 702 W. Johnson Street, Suite 2104 Email: mcburney@studentlife.wisc.edu

Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

Lecture Recordings and Intellectual Property

While lecture recordings are not available to students, generally, under the rare circumstance in which you may have access to a lecture recording please note:

Lecture materials and recordings for this course are protected intellectual property at UW-Madison. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. [Regent Policy Document 4-1] Students may not copy or have lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.

Religious observations

Please be in touch with Professor Kennedy early in the semester if you expect your observation of religious holidays or events will conflict with course events, including but not limited to the final exam. We are happy to help make alternative accommodations.

Regular and substantive student-instructor interaction

Students will receive regular and substantive interaction with instructor, as well as teaching assistants, during in-person lectures, discussion sections, through feedback on written assignments, and in one-on-one meetings in office hours.

Grade Components

Grade Components:

Canvas Responses (10%)
Discussion Section Participation + Attendance (20%)
Mid-Term (20%) (take-home)
Final Exam (25%) (take-home)
Writing Project (25%)

Canvas Responses (10%)

Just about every other week during the semester, you will be asked to complete a short writing assignment of about a paragraph in length on Canvas in response to the week's lecture or some supplemental material (like a short video or a news article). These responses are **due by 11:59PM Tuesday** to help you and your TA prepare for section over the next few days. They should take no more than 30 minutes to complete. They are *graded leniently*, and are used to provide supplemental material (clips, short articles) and quick activities (writing a journal about a topic from the week, a response to a video) to reinforce the main themes of the week and to prepare you for discussion sections.

Response Rubric

3 Points Answered the question fully, using requested material described in the prompt

2 Points Answer was not complete and/or showed only minimal engagement with material specified in the prompt

1 Points Answer was on-topic but was overly general or non-specific

0 Points No attempt made / off-topic response

1 point off for very late responses

Discussion Section Participation and Attendance (20%)

In discussions, you will discuss course materials from the week (lectures, readings, film content) practice critical skills (how to engage in a classroom discussion, how to analyze a primary source) and perform additional group activities to build your knowledge of course material.

The discussion sections are a crucial component of this course, and you are required to attend.

Attendance:

You are permitted two "freebies" (unexcused, unexplained absences) unexcused absences from discussion sections. Additionally, if something comes up (a doctor's visit, family situation) you can be in touch with your TA and Professor Kennedy to request an excused absence, but please try to do so in advance, if possible, to arrange alternative work. **You will lose 5% on your discussion grade for each**

additional unexcused absence. (e.g. if you finish with a 90% on your participation as described in the rubric below, you'll receive an 85% on your discussion grade for the semester).

Additionally, you are graded on your contributions to discussions, **not simply in terms of the amount you speak, but on your productive engagement with your classmates' ideas.** We will be teaching you how to engage respectfully and productively in a diverse discussion-based classroom where you learn from each other. In your first meetings, we will discuss in greater detail expectations for participation, ideas for how to build upon each other's comments, standards of behavior and respect in our classroom community, and the way you will be evaluated.

Discussion Participation Rubric

Excellent (94-100)	Good (88-94)	Competent (80-88)	Pass (60-80)	Fail (0-60)
Consistent preparation and regular involvement in discussion Exemplary creativity and effort in discussions Comes to class with questions and ideas Draws on material from other weeks in the course Engages others respectfully, building on and giving credit to students work Leaves space for other students to speak	Demonstrates familiarity with course readings Makes regular effort to get involved in discussion Engages others respectfully, building on and giving credit to other students' Comments	Involved in discussion, but does not demonstrate preparation of readings or knowledge of lecture material Contributes when called upon but not actively engaged in the discussion	Responses are on-topic but do not demonstrate awareness of course materials of course	Uninvolved Disruptive or disrespectful to peers or teaching assistant

Examinations:	Mid-term 20%	Final: 25%
----------------------	---------------------	-------------------

The mid-term and final exam are **take home exams** of the same format. The final is slightly longer (more questions of the same format of the mid-term) and comprehensive. The mid-term covers through the week preceding the test. The final covers all of the course (weeks 1-15).

The exams feature a number of multiple-choice questions and two pieces of writing. One is a short essay of about two paragraphs that will ask you to explain a key topic or concept; the other is a slightly longer essay (3-4 paragraph) that will ask you to think more synthetically about historical events over a period of time.

More information will be given about examinations during the semester. In general, although we will not be testing you on your mastery of exact dates (to the year) or detailed knowledge of technical matters (e.g. what metals are used in CMOS technology), or a long list of names, or machines, we do expect you to have

- 1) Some command of a rough timeline of historical developments people, contexts, and events, (e.g. to know that SAGE was developed during the early Cold War; or that networked computing for communication emerged in the late 1960s)
- 2) Familiarity with technologies discussed in lecture in the sense of knowing why they were historically important, including because of the people who made them or how they were influential in social or economic history (e.g. that the programming language COBOL was a very early one, and was developed by a consortium of businesses and the US military in the 1950s to create a standard across the many machines being produced during the period),
- 3) A repository of anecdotes from lecture, course readings and materials, and discussion sections, that you could use in an essay questions (e.g. the story of the ENIAC computers and the history of the ‘hidden figures’ at NASA to make an argument about the marginalization of women from the history of technology) .

Writing Assignment: Op-Ed Essay (25%) * split into 3 parts

There is one writing assignment in this course, split up into **three parts** which you will complete over the course of the semester. The assignment is to write an “op-ed” article of about 750-900 words about an issue in digital technology and society today that draws on course material, your own experiences and opinions, and some reading of newspaper and popular interest magazine articles. Detailed rubric and instructions will be provided at each stage of the assignment.

Part 1: Draft 5%

First, you’ll write a draft of your op-ed, following models and guidelines provided in class and on canvas. Full credit will be awarded for essays that are submitted on time and meet the minimal requirements of the assignment in terms of style, length, and sources.

Part 2: Peer-Review Letter 5%

Second, you’ll read and respond to a peer’s op-ed, providing in-line edits and substantive suggestions in the form of a 150 to 200-word letter.

Part 3: Final Version 15%

The third part of the assignment is to produce a final version of the essay, drawing on the input of your peer (who will provide edits and brief feedback on your draft).

Resources for the Op-Ed

In addition to the samples and guidelines we will provide on the assignment instructions, we encourage you to take advantage of University resources for developing your draft, especially the History Department History Lab: <https://history.wisc.edu/undergraduate-program/the-history-lab/>. We also recommend the University Writing Center: <https://writing.wisc.edu/individual/> for developing your skills.

Policy on late work:

Please be in touch with Professor Kennedy if you are having problems meeting deadlines on the quizzes and the writing assignment and keeping the pace of the course.

On **the draft**: 10% per day (e.g. a 100% on the draft will receive a 90%)

On the **peer review response**: 10% per day (e.g. a 85% received one day late will receive a 80%)

Late submission of the **final op-ed assignment**: 5% per day. No assignment will be accepted more than one week late, except for extraordinary circumstances.

Academic Integrity

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

Grading Scale

- A = 94+
- AB = 88-94
- B = 83-88
- BC = 77-83
- C = 71-77
- D = 65-70
- F = 65 and below

Accommodations

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. I will work either directly with you or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA.

Policy on Electronic Devices

Laptops and other note-taking devices are permitted during lectures, discussion meetings, and for in-class exams (using examination software to-be-provided). Technology offers many benefits to our notetaking, studying, and research practices. But they also have negative effects—multi-tasking can make us less conscientious of our peers when they’re speaking and make it harder to follow lectures in real-time. We expect you to be engaged and present at all times during lecture and class discussion.

Institutional statement on diversity:

“Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.” <https://diversity.wisc.edu/>

Schedule of Classes, Readings and Assignments

Unit One: Machinery of State (Weeks 1-3)

We begin the history of computing before digital computers. We examine earlier technologies in the late 19th and 20th century to see how human computing practices, analog machines, and punched card systems aided governments in the administration of state and colony. We use these histories to understand government supports for the military development of computers as we know them—stored-program, all-digital, electronic devices—in war efforts in World War II and the early Cold War.

Week 1: Introduction

September 4-6 (Half-week)

Read before sections:

1. [on canvas] Dave Karpf “On Technological Optimism and Technological Pragmatism” Substack February 18, 2023 <https://davekarpf.substack.com/p/on-technological-optimism-and-technological>

Lecture 1 Introduction and the Goals of Studying the History of Technology
September 4

SECTIONS MEET

Week 2: The Social and Political Significance of Data (1790-1939)

September 9 - 13

Read:

1. [on canvas] Margo Anderson “Ghosts of Census Past and their Relevance for 2020” *Proceedings of the American Philosophical Society*

Watch/Listen:

2. [on canvas] Khalil Gibran Muhammad “How Numbers Lie” <https://youtu.be/br0ZYTGuW9M?feature=shared&t=942> (starts around 15:45)

Lecture 2 Industrial Age Computing
September 9

Lecture 3 Government Statistics and Mechanical Tabulation
September 11

Week 3: The US Military and the Invention of the Computer (1940-1970) September 16 - 20
--

*** Op-Ed Assignment Provided ***

Reading Response due on Canvas: Tuesday September 17 11:59PM

Read:

1. Margaret O'Mara The Code: Silicon Valley and the Remaking of America
Introduction: ("The American Revolution"), Chapter 1: ("Endless Frontier"), and Chapter 3 ("Shoot the Moon")

Watch:

2. IBM "On Guard! The Story of SAGE" (1956) <https://www.youtube.com/watch?v=nc-hlv3B9kY>

Lecture 4 World War II and the Electronic Computer
September 16

Lecture 5 The Cold War
September 18

Unit Two: Business Machines (Weeks 4-6)

<i>We examine developments in business, technology, labor, and society as computers became a big business after World War II. We'll touch on the history of electronics and programming languages, and related social developments: the experiences of engineers and coders, the institutions and capital that supported computing innovations, how computing entered new and old industries, and the early development of lasting patterns of globalized manufacturing and labor.</i>
--

Week 4: State Influence and the Computer Industry (1945-1975) September 23 - 27
--

Read:

1. O'Mara The Code Chapter 2 ("Golden State"), Chapter 5 ("The Money Men") and Chapter 7 ("The Olympics of Capitalism")

2. [on canvas] Matthew Levin Cold War University: Madison and the New Left in the Sixties
Chapter 1: "Cold War University: Higher Education after World War II."

Lecture 6 Integrated Circuits and the Military-Industrial Complex
September 23

Lecture 7 Universities and the Cold War
September 25

Week 5:	The Shaping of a Tech Workforce (1940-1975)	September 30 - October 4
----------------	--	--------------------------

Response due on Canvas: Tuesday October 1 11:59PM

Read:

1. [link on canvas] Clive Thompson, “The Secret History of Women in Coding” *The New York Times Magazine* <https://www.nytimes.com/2019/02/13/magazine/women-coding-computer-programming.html>
2. [on canvas] Janet Abbate “Code Switch: Alternative Visions of Computer Expertise as Empowerment from the 1960s to the 2010s.” *Technology & Culture* 59 No. 4. October, 2018.
3. [on canvas] Ian Bogost “Universities have a Computer Science Problem” *The Atlantic* March 19, 2024

Lecture 8 “When Computers were Women”
September 30

Lecture 9 Professionalization, Masculinization, and The Software Crisis
October 2

Week 6:	Computerization (1955-1975)	October 7 - 11
----------------	------------------------------------	----------------

Read:

1. [on canvas] James Carey and Joseph Beirne, 2 Speeches at the 1955 CIO National Conference on Automation in The Challenge of Automation, 1956
2. [link on canvas] Martin Greenberger “The Computers of Tomorrow” (The Atlantic, 1964)

Listen:

3. *99PercentInvisible: Episode Project Cybersyn (Text, Video, and 23minute podcast)*
<https://99percentinvisible.org/episode/project-cybersyn/>

Lecture 10 IBM and the Introduction of the Computer to Business
October 7

Lecture 11 Computers and Economies: Factories, Finance and Project Cybersyn
October 9

Unit Three: Coding Community (Weeks 7-11)

We explore how technologies developed for largely business and government use became 'personal' machines and tools for collaborating within and connecting communities. We consider technical developments (graphics, input devices, internet infrastructure, web browsers) as they were made and remade by governments, scientists, and activists, from the Vietnam era to the 1990s dot-com boom.

Week 7: Rage Against the Machine (1965-1980)

October 14 - 18

Response due on Canvas: Tuesday October 15 11:59PM

Read:

1. [on canvas] Fred Turner, "Taking the Whole Earth Digital" [From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism]
2. [on canvas] "Calculus for Conquest" (Science for the People, Mar. 1973)

Lecture 12 Fighting the Machine (with virtual field trip to the UW-Archives)
October 14

Lecture 13 How Students, Hackers and Teachers made Computing "Personal"
October 16

Week 8: The Soul of a New Machine (1968-1984)

October 21 - 25

TAKE HOME *Mid-Term* due Friday 11:59PM (covering content through week 7)

Read:

1. O'Mara The Code: Chapter 8 ("Power to the People"), Chapter 12 ("Risky Business"), Chapter 13 ("Storytellers") and Chapter 16 ("Big Brother")

Lecture 14 TBA:
October 21

Lecture 15 Selling a Revolution: The Personal Computer Business
October 23

Week 9: Going Online (1980-1999)	October 28 - November 1
--	-------------------------

*** Op-Ed Assignment (Draft) Due Friday 11:59PM* on Canvas**

Read:

1. O'Mara The Code Chapter 14 (“California Dreaming”), Chapter 20 (“Suits in the Valley”)
2. [Link on canvas] Al Gore, Speech on the Information Superhighway

Lecture 16 The Net Before the Internet
October 28

Lecture 17 From ARPAnet to the World Wide Web
October 30

Week 10: The Information Society (1980-1999)	November 4 - 8
--	----------------

Op-Ed Project Part 2 Provided (Peer Review)

****Response due on Canvas: Tuesday November 5 11:59PM****

Read:

1. [on canvas] Vannevar Bush “As We May Think” (The Atlantic, 1945)
2. [on canvas] J.C.R Licklider and Robert Taylor, “The Computer as Communications Device” (Science and Technology, April 1968)
3. Margaret O'Mara The Code: Silicon Valley and the Remaking of America 2019 Chapter 15 (“Made in Japan”)

Lecture 18 Information Overload
November 4

Lecture 19 Citizens and States in the Information Age of the 1970s
November 6

Week 11: Governing the “Digital Frontier,” (1994-2004)

November 11 - 15

Response due on Canvas: Tuesday November 12 11:59PM

Read:

1. O’Mara The Code Chapter 19 (“Information Means Empowerment”), Chapter 21 (“Magna Carta”), and Chapter 22 (“Don’t Be Evil”)
2. [link on canvas] John Perry Barlow “A Declaration of the Independence of Cyberspace” Eff.org 1996.

Watch:

3. [link on canvas] New York Times Retro Report Napster: Culture of Free
<https://www.youtube.com/watch?v=CKrdsGdLVQ8>

Lecture 20 The “Independence of Cyberspace”
November 11

Lecture 21 Y2k and Computers-as-Infrastructure
November 13

**Unit Four: Recent History and Developing Themes
(Weeks 12-15)**

We apply historical perspective to engage contemporary trends in computing and society, and ask what a “digital age” represents. We focus on three ongoing developments: the intensification of computing’s environmental and human costs; the growing influence and potential harms of big data and automated intelligence systems in society (and emergence of worker’s movements in contesting them); and the role and vulnerability of social media in social movements from the Arab Spring to recent trends.

Week 12: “The Internet is You“

November 18 – 22 (Half-week)

Op-Ed Peer Editing Due on Canvas Friday December 2 11:59PM

Response due on Canvas: Tuesday October 29 11:59PM

Read:

1. [link on canvas] Zeynep Tufekci Twitter and Tear Gas: The Power and Fragility of Networked Protest Excerpt on Wired.com
2. O’Mara The Code Chapter 23 (“The Internet is You”)

Lecture 22 The Dot-com bubble and the Origins of Social Media
November 22

Lecture 23 Social media and Democracy
November 29

Week 13: Internet Society and Traditional Media	November 25 – November 29
---	---------------------------

(No Section meetings; no Wednesday Lecture—Thanksgiving)

Lecture 24 Platforms and News Media
November 25

Week 14: AI and Society	December 2 – 6
-----------------------------------	----------------

Response due on Canvas: Tuesday December 3 11:59PM
FINAL Discussion Section meetings

Readings:

1. [on canvas] Blake Richards et al. “The Illusion of AI’s Existential Risk” *NOEMA Magazine* July 18 2023 <https://www.noemamag.com/the-illusion-of-ais-existential-risk/>
2. [on canvas] Alondra Nelson, “The Right Way to Regulate AI” *Foreign Affairs* January 12, 2024.

Lecture 25 *A Brief* History of AI
December 2

Lecture 26 Risks and Realities of AI
December 4

Week 15: Chip Wars	December 9 - 13
------------------------------	-----------------

No discussion sections

Readings:

1. [on canvas] Shaolei Ren and Adam Wierman, “The Uneven Distribution of AI’s Environmental Impacts.” *Harvard Business Review* <https://hbr.org/2024/07/the-uneven-distribution-of-ais-environmental-impacts>

Watch:

2. [on canvas] Chip War (2023)

Lecture 27 Environmental and Geopolitical Consequences of AI
December 9

Lecture 28 Wrap-up Discussion / Flex
December 11

Op-Ed Final Version Due Friday December 13, 11:59PM

***Final Exam* TAKE-HOME-Exam Due Date TBA**