

# LMC 6316: Historical Approaches to Digital Media

Spring 2023

3 Units

*(Details of the syllabus subject to change; the version on Canvas will be the most up-to-date!)*

## Course Information

### Course Meeting

Monday/Wednesday 12:30-1:45pm

Stephen C Hall 102

### Instructor

Richmond Wong, PhD

Assistant Professor, Digital Media, School of Literature Media & Communication, Georgia Tech

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<https://richmondywong.com>

[he/him/his](#)

### Drop-In (“Office”) Hours & Email

- Tuesdays, 2-4pm, Virtual or TSB 316A (tentatively – hours subject to change)
- Please book a meeting time on this [bookings page](#) on Canvas. (In the booking notes, let me know if you want to meet in-person or virtually. Some weeks may be virtual-only due to other commitments)
- You can also email me to arrange to meet at an alternative time if these times do not work for you

### Course Description

In this class we’ll be looking broadly at histories of media technologies, in part seeking to understand how many of the social and ethical issues related to digital media and technology today have historical roots. The first half broadly traces the development of computers, data, networks, and the internet. The second half broadly looks at cross-cutting themes that are relevant across this history.

### Materials

All readings will be available as PDFs. Most weeks, we will be reading significant portions of books – you are free to purchase or obtain your own copies of the books if desired.

### Course Technology

- Readings and assignments will be on Canvas
- We’ll have Microsoft Teams group for backchannel discussion, reading responses, and sharing links and resources
- Perusall for shared notes and annotation (there’s a link on the Canvas menu)

### Course Objectives and Learning Outcomes

By the end of this course, students:

- Will be able to analyze and critically evaluate arguments about digital media histories.
- Will understand formal concepts and theories used in studying the history of digital media

- Will be able to articulate continuities and discontinuities between historical and present issues in digital media.
- Have the ability to apply historical concepts and theories to the study of digital media
- Can communicate their work through oral and written forms
- Will consider how design practices in the present may make use of historical understandings of digital media.

## Course Schedule, Grading, and Assignments

### Course Structure and Approach

As most histories of technology are discussed in book format, most weeks we will be devoted to one book. Usually on Mondays, we'll all read the same thing: usually the intro and conclusion of a book, and maybe a key chapter. This will help us understand the general arguments and main points of the book. For Wednesdays, we'll sign up to split up the remaining chapters and share what we read. As a collective, we should then have a full understanding of each book!

The course will primarily be in a seminar style – so students are expected to keep up with the readings and participate in class discussions and/or the Teams channel. Readings should be completed before class. We'll talk about strategies for reading books during the first week, but the key goal will be to focus on reading for the main argument(s) of each book, rather than reading word-for-word to memorize every specific detail and example presented by the authors. I've aimed to keep readings less than 100 pages per session, and Wednesdays to have less reading than Mondays.

### Weekly Schedule

#### Week 1: Intro and Methods

Mon Jan 9 - Intro

- No readings before class
- In class we'll look at:
  - Mar Hicks' Reading Tips for History Classes: <https://marhicks.com/blog/?p=681>
  - Paul Edwards' How to Read a Book: <http://pne.people.si.umich.edu/PDF/howtoread.pdf>
  - And talk about reading, questions you can ask while you read, etc.
- We'll go over the syllabus and class expectations

Wed Jan 11 – What can we do with history?

- Robert Soden, David Ribes, Seyram Avle, and Will Sutherland. 2021. Time for Historicism in CSCW: An Invitation. *Proc. ACM Hum.-Comput. Interact.* 5, CSCW2, Article 459 (October 2021), 18 pages. <https://doi.org/10.1145/3479603>
- [skim] Rosner, Daniela K., Samantha Shorey, Brock R. Craft, and Helen Remick. "Making Core Memory: Design Inquiry into Gendered Legacies of Engineering and Craftwork." In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems - CHI '18*, 2018-April:1–13. New York, New York: ACM Press, 2018. <https://doi.org/10.1145/3173574.3174105>.
- Kat Jungnickel. 2015. Sewing as a design method. *interactions* 22, 6 (November - December 2015), 72–75. <https://doi.org/10.1145/2834881>

#### Week 2: Radio

Mon Jan 16 – **Holiday, No class**

Wed Jan 18 – Early Radio, and some key concepts

- Douglas, Susan J. (2004). *Listening in: radio and the American imagination*. University of Minnesota Press.
  - Chapter 1: The Zen of Listening (17 pages)
  - Chapter 3: Exploratory listening in the 1920s (27 pages)
  - Chapter 6: Invention of the audience (36 pages)

**Week 3: Internet History and the Military**

Mon Jan 23

- Abbate, Janet. (2000). *Inventing the internet*. MIT press.
  - Intro (pg 1-6)
  - Ch 1 (pg 7-41): White heat and cold war
  - Ch 2 (pg 43-81): Building the ARPANET

Wed Jan 25:

- Choose one of the following:
  - Ch 3: “The most neglected element”: Users Transform the ARPANET (pg 83-112)
  - Ch 4: From ARPANET to Internet (pg 113-146)
  - Ch 5: The Internet in the International Standards Arena (pg 147-180)
  - Ch 6: Popularizing the Internet (pg 181-220)

**Week 4: Internet History and Counterculture**

Mon Jan 30

- Turner, Fred. (2006). *From counterculture to cyberculture*. In *From Counterculture to Cyberculture*. University of Chicago Press.
  - Introduction (pg 1-10)
  - Ch 1: The Shifting Politics of the Computational Metaphor (pg 11-40)
  - Ch 8: The Triumph of the Network Mode (pg 237-262)

Wed Feb 1:

- Choose one of the following:
  - Ch 2: Stewart Brand Meets the Cybernetic Counterculture (p41-68)
  - Ch 3: The Whole Earth Catalog as Information Technology (pg 69-102)
  - Ch 4: Taking the Whole Earth Digital (p 103-140)
  - Ch 5: Virtuality and Community on the WELL (pg 141-174)
  - Ch 6: Networking the New Economy (pg 175-206)
  - Ch 7: Wired (pg 207-236)

**Week 5: “Networks”**

Mon Feb 6:

- Hu, Tung-Hui. (2015). A prehistory of the cloud. MIT Press. Hu, Pre-history of the cloud
  - Introduction (pg ix-xxix)
  - Interlude: Learning from Santa Clara (pg 73-78)
  - Conclusion (pg 145-147)

Wed Feb 8:

- Choose one of the following:
  - Ch 1 The Shape of the Network (pg 1-36)
  - Ch 2 Time-Sharing and Virtualization (pg 37-72)
  - Ch 3 Data Centers and Data Bunkers (pg 79-110)
  - Ch 4 Seeing the Cloud of Data (pg 111-144)

**Week 6:** Interlude: Media Policy I & Design Activities

Mon Feb 13: History of Network Regulation

- Crawford, Susan P. (2013). Captive audience: The telecom industry and monopoly power in the new gilded age. Yale University Press.
  - Introduction (pg 1-18)
  - **[Skim]** Ch 1: From Railroad to Telephone (pg 19-34)
  - Ch 2: Regulatory Pendulum: The Long Twilight Struggle (pg 35-63)
  - Ch 14: The Costly Gift (pg 254-270)

Wed Feb 15: Design Interlude

- **No readings**, we'll do some design activities in class thinking about historical metaphors for technology design

**Week 7:** Social Media

Mon Feb 20:

- Van Dijck, Jose. (2013). The culture of connectivity: A critical history of social media. Oxford University Press.
  - Ch 1: Engineering sociality in a culture of connectivity (21 pgs)
  - Ch 2: Disassembling platforms, reassembling sociality (21 pgs)
  - Ch 8: The ecosystem of connective media: lock in, fence off, opt out? (23 pgs)

Wed Feb 22:

- Choose one of the following:
  - Ch 3: Facebook and the imperative of sharing (23 pgs)
  - Ch 4: Twitter and the paradox of following and trending (21 pgs)
  - Ch 5: Flickr between communities and commerce (21 pgs)
  - Ch 6: YouTube: the intimate connection between television and video sharing (22 pgs)
  - Ch 7: Wikipedia and the neutrality principle (22 pgs)

## Written Assignment 1 Due Fri Feb 24

### Week 8: Histories of Race & Surveillance

Mon Feb 27:

- Browne, Simone. (2015). *Dark matters: On the surveillance of blackness*. Duke University Press.
  - Introduction, and Other Dark Matters (pg 1-30)
  - Ch 1. Notes on Surveillance Studies: Through the Door of No Return (pg 31-62)
  - Epilogue. When Blackness Enters the Frame (pg 161-164)

Wed Mar 1:

- Choose one of the following:
  - Ch 2. "Everybody's Got a Little Light under the Sun": The Making of the Book of Negroes (pg 63-88)
  - Ch 3. Branding Blackness: Biometric Technology and the Surveillance of Blackness (pg 89-130)
  - Ch 4. "What Did TSA Find in Solange's Fro?": Security Theater at the Airport (pg 131-160)

### Week 9: Gender & Labor

Mon Mar 6:

- Hicks, Mar. (2017). *Programmed inequality: How Britain discarded women technologists and lost its edge in computing*. MIT Press.
  - Introduction: Britain's Computer "Revolution" (pg 1-18)
  - Conclusion: Reassembling the History of Computing around Gender's Formative Influence (pg 225-240)
  - Appendix: Timeline of Key Events (pg 241-244)

Wed Mar 8:

- Choose one of the following:
  - Ch 1: War Machines: Women's Computing Work and the Underpinnings of the Data-Driven State, 1930–1946 (pg 19-58)
  - Ch 2: Data Processing in Peacetime: Institutionalizing a Feminized Machine Underclass, 1946–1955 (pg 59-98)
  - Ch 3: Luck and Labor Shortage: Gender Flux, Professionalization, and Growing Opportunities for Computer Workers, 1955–1967 (pg 99-148)
  - Ch 4: The Rise of the Technocrat: How State Attempts to Centralize Power through Computing Went Astray, 1965–1969 (pg 149-188)
  - Ch 5: The End of White Heat and the Failure of British Technocracy, 1969–1979 (pg 189-224)

### Week 10: Interlude: Media Policy II & Design Activities

Mon Mar 27: Media Law Meets the Internet

- Crawford, Susan P. (2013). Captive audience: The telecom industry and monopoly power in the new gilded age. Yale University Press.
  - Ch 4: Going Vertical: Lessons from AOL-Time Warner (pg 86-109)
  - Ch 5: Netflix, Dead or Alive (pg 110-122)
  - Ch 8: When Cable Met Wireless (pg 156-169)
  - Ch 12: Aftermath (pg 223-232)

Wed Mar 29: Design Interlude

- No readings, we'll do some design activities with historical concept videos and companies' historical imagined visions of the future

### **March 20-24 Spring Break**

#### **Week 11: Queer Media & Archives**

Mon Mar 27:

- McKinney, Cait. (2020). Information activism: a queer history of lesbian media technologies. Duke University Press.
  - Introduction (pg 1-32)
  - Epilogue. Doing Lesbian Feminism in an Age of Information Abundance (pg 205-216)

Wed Mar 29:

- Choose one of the following:
  - Ch 1. The Internet That Lesbians Built: Newsletter Networks (pg 33-66)
  - Ch 2. Calling to Talk and Listening Well: Information as Care at Telephone Hotlines (pg 67-104)
  - Ch 3. The Indexers: Dreaming of Computers while Shuffling Paper Cards (pg 105-153)
  - Ch 4. Feminist Digitization Practices at the Lesbian Herstory Archives (pg 153-204)

#### **Week 12: Labor & the Dot-Com Era**

Mon Apr 3

- Neff, Gina. (2012). Venture labor: Work and the burden of risk in innovative industries. MIT press.
  - Ch 1. The Social Risks of the Dot-Com Era (pg 1-38)
  - Ch 6 Conclusion: Lessons from a New Economy for a New Medium? (pg 149-166)

Wed Apr 5

- Choose one of the following
  - Ch 2. The Origins and Rise of Venture Labor (pg 39-68)
  - Ch 3. Being Venture Labor: Strategies for Managing Risk (pg 69-100)
  - Ch 4. Why Networks Failed (pg 101-133)
  - Ch 5. The Crash of Venture Labor (pg 133-148)

#### **Week 13: Interlude: Data Privacy Regulation & Design Activity**

Mon Apr 10

- *No reading responses needed for this week*
- World Economic Forum (2020) Redesigning Data Privacy: Reimagining Notice & Consent for human-technology interaction.  
[https://www3.weforum.org/docs/WEF\\_Redesigning\\_Data\\_Privacy\\_Report\\_2020.pdf](https://www3.weforum.org/docs/WEF_Redesigning_Data_Privacy_Report_2020.pdf)
- We'll do some design activities thinking about temporality and design

Wed Apr 12

- **No class, LMC/Digital Media Demo Day**

#### **Week 14: Infrastructure and Urban Media**

Mon Apr 17

- Mattern, Shannon. (2017). Code and clay, data and dirt: Five thousand years of urban media. U of Minnesota Press.
  - Introduction: Ether/Ore (pg vii-xl)
  - Conclusion: Coding Urban Past and Futures (pg 146-156)

Wed Apr 19

- Choose one of the following:
  - Ch 1. Waves and Wires: Cities of Electric Sound (pg 1-42)
  - Ch 2. Steel and Ink: The Printed City (pg 43-84)
  - Ch 3. Of Mud, Media, and the Metropolis: Aggregating Histories of Writing and Urbanization (pg 85-114)
  - Ch 4. Speaking Stones: Voicing the City (pg 115-146)

#### **Week 15: Wrap Up**

Mon Apr 24

- Virtual or asynchronous session. No in person meeting due to CHI conference.

#### **Written Assignment 2 Due Friday April 28 (our "final exam" date)**

Grading:

<b>Assignment</b>	<b>% of Final Grade</b>
<b>Reading Responses</b> – Brief reflections on readings, starting in week 2.	30%
<b>Enhanced Reading Responses</b> - At your choice, 4 longer reading responses	20% (5% each)
<b>2 Longer Written Assignments</b>	40% (20% each)
<b>Participation</b>	10%

Your final grade will be assigned as a letter grade according to the following scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

### Brief Assignment Descriptions:

(Subject to slight changes, the most up-to-date version of assignments will be posted in Canvas)

#### **Reading Responses (30%)**

Starting in the second week, students will be responsible for submitting a brief reading response to the Teams group, and providing a link to their post in the Canvas assignment. There will be a separate channel on Teams for each book that we read. These should be posted **before the start of class**. These are meant to help you reflect and prepare for in class discussion (and help share information about other chapters with your classmates)

Reading responses will have the following format (can be bullet points):

- [*For Wednesdays only*]: What chapter you read
- What you think one of the main arguments of the reading is (1 sentence)
- An example or piece of evidence that supports that argument (1-2 sentences)
- Something that you thought was interesting that you would like to discuss more (1 sentence)
- Something that you didn't understand or want to learn more about (1 sentence)
- [*Optional*]: 1-2 sentences of how this might be useful to your own research, design work, or other interests.

There are 20 possible reading assignments, and these will be graded based on completion as follows:

- A: Satisfactorily respond to 80% of the sessions (16+)
- B: Satisfactorily respond to 70% of the sessions (14+)
- C: Satisfactorily respond to 50% of the sessions (10+)

#### **Enhanced Reading Responses (20% total, 4 x 5% each)**

In addition to the regular reading responses, over the semester students will be responsible for 5 longer reading responses, submitted directly to Canvas. In up to 250 words, you have an open-ended opportunity to reflect on the readings in more depth, and I'll provide written feedback on these. Some non-exhaustive ideas of the formats are below:

- Discuss in more detail how this might be useful to your own research, design work, or other interests
- What are some design ideas that occur to you based on the reading? (You can attach sketches, mockups, etc, if you'd like)
- Relate the reading to a current day technology, system, controversy, or news event
- Critically review and analyze the author's argument (e.g., are there holes in it? Are there things missing from the author's analysis or perspective? Is the author's lens better at understanding some phenomena over others?)

Grading:

- A: Deep and thoughtful engagement with reading
- B: Engages with the reading
- C: Minimal engagement with reading

#### **Longer Written Assignments (40% total, 2 x 20% each)**

There will be longer written assignments across the course that build on your enhanced reading responses, due around Week 6 and at the end of the course. These will let you engage with multiple readings more deeply, and is an opportunity to help relate the course to your own interests. You will be

expected to cite and engage at least 2 readings. Again, the format is open, but some possible prompts include:

- Compare and contrast 2+ authors' lenses with each other (which things is each lens able to help understand; which things may be more difficult?)
- Apply 2+ authors' lenses to another book/technology/case/example/news story
- Discuss how 2+ readings could be useful in your own research, design work, or other interests
- Present design concepts that draw on 2+ readings (attaching sketches or other media is ok)

Grading:

- A: Deep engagement with 2+ readings
- B: Engagement with 2+ readings, with deep engagement in 1
- C: Engagement with at least 1 reading

### Participation

Participation can be done in multiple ways, including through verbal discussion in class, comments on peers' reading responses on Teams, or contributing to discussion in other channels on Teams.

I **highly recommend** using Perusall, a collective notetaking and discussion tool (available on the menu on Canvas.) You can annotate readings, highlight main points, ask questions, etc. You're welcome to take your own private notes as well, but any annotations and conversations that you make here that are visible to the class will count towards your class participation.

### Course Expectations and Guidelines

#### A note on COVID-19

I want to acknowledge that we are still in a dynamic and what can feel like a precarious time. I will strive to create a stimulating learning environment, although there may be uncertainties or complications that arise during the course that will require flexibility and mutual trust. Do not hesitate to contact me if there is anything you would like to discuss at any point during the course. Please communicate with me if a situation arises that will require flexibility and we can adjust as needed. If you feel ill, please stay home if you feel sick, to protect yourself and others.

For our in-person class meetings, I will be wearing a high-quality N/KN-95 mask and have additional masks available should anyone want to use one. The University System of Georgia encourages people to wear masks based on their preference and assessment of personal risk.

In addition, students can schedule a Covid-19 vaccine and/or booster with Stamps Health Services. Georgia Tech continues to recognize that Covid-19 vaccines and boosters offer safe, effective protection and urge all students, faculty, staff, and visitors to get vaccinated and/or boosted.

#### Due Dates and Late Policy

The 2 longer written assignments are due at 11:59pm on their due date. For submissions after this time, 1 point will be deducted for every late day (1 point for up to 24 hours late, 2 points for up to 48 hours, etc).

Reading responses are due *before* class starts. Late reading responses can be submitted to help encourage participation and discussion, but will not count for a grade.

**Academic Integrity**

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards and to follow the [Georgia Tech Academic Honor Code](#).

**Accommodations**

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

**Attendance**

Participation in this class is important so that we can explore and understand the readings together. Your attendance is important; however I acknowledge we live in uncertain times. Any absences due to health reasons and personal or family emergencies will be excused. Stay home if you feel sick, to protect yourself and others. Please communicate with me in advance if you will be missing a class. Three unexcused absences are allowed, but additional unexcused absences will lower the student's overall grade by 5%. If you feel that you are falling behind due to an illness, emergency, or other reason, please come see me and we can make a plan for alternate arrangements.

**Student-Faculty Expectations Agreement**

At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek.

**Statement on Inclusivity and Diversity**

The Ivan Allen College of Liberal Arts supports the Georgia Institute of Technology's commitment to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those who constitute the Georgia Tech community, as well as the necessity of working against inequalities that may also manifest here as they do in the broader society.

**Additional Resources**

If you are experiencing anxiety or depression or a medical, personal, or family crisis, or if you just feel overwhelmed, please do not hesitate to reach out for help. Everybody needs help sometimes, and college can be a personally challenging time. You are not alone, and many of us are available to be sympathetic listeners and to share our own strategies for coping with stressful situations. In addition, professional counselors and medical practitioners have expertise that can be very helpful. The Dean of Students has a list of services (see <https://studentlife.gatech.edu/content/get-help-now/>).

*Thank you to Anne Jonas, Elizabeth Resor, and Andre Brock for ideas for this syllabus.*

## Additional readings that may be of interest

Topics that we don't have time for in the class, or some different

### Social Histories of Technologies:

- Marvin, Carolyn. (1988). *When old technologies were new: Thinking about electric communication in the late nineteenth century*. Oxford University Press, USA.
- Fischer, Claude S. (1994). *America calling: A social history of the telephone to 1940*. Univ of California Press.
- Edwards, Paul N. *The closed world: Computers and the politics of discourse in Cold War America*. MIT press, 1996.

### Material histories of media

- Gitelman, Lisa. *Paper knowledge: Toward a media history of documents*. Duke University Press, 2014.
- Halpern, Orit. (2014). *Beautiful data: a history of vision and reason since 1945*. Duke University Press
- Sterne, Jonathan. *MP3: The meaning of a format*. Duke University Press, 2012.
- Gaboury, Jacob (2021). *Image objects: An archaeology of computer graphics*.

### Infrastructures, government, policy

- Scott, James C. (2008). *Seeing like a state*. Yale university press.
- Igo, Sarah E. *The known citizen: A history of privacy in modern America*. Harvard University Press, 2018.
- Larkin, Brian. (2008). *Signal and Noise: Media, Infrastructure, and Urban Culture in Nigeria*. Duke University Press.
- Gellman, Robert, *Fair Information Practices: A Basic History - Version 2.22 (April 6, 2022)*. (59 pages) Available at SSRN: <http://dx.doi.org/10.2139/ssrn.2415020>

### Tech Companies:

- Hiltzik, Michael. (1999). *Dealers in Lightning: Xerox PARC and the Dawning of the Computer Age*.
- Saxenian, Annalee. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, Massachusetts: Harvard University Press, 1994.

### Work and labor:

- Khovanskaya, Vera, and Phoebe Sengers. "Data Rhetoric and Uneasy Alliances: Data Advocacy in US Labor History." In *Proceedings of the 2019 on Designing Interactive Systems Conference*, 1391–1403. New York, NY, USA: ACM, 2019. <https://doi.org/10.1145/3322276.3323691>.
- Orr, Julian E. *Talking About Machines: An Ethnography of a Modern Job*. Ithaca, NY: ILR Press/Cornell University Press, 1996.
- Zuboff, Shoshana. *In the Age of the Smart Machine: The Future of Work and Power*. New York: Basic Books, 1988.

### Design:

- O'Shea, Lizzie. *Future histories: what Ada Lovelace, Tom Paine, and the Paris Commune can teach us about digital technology*. Verso Books, 2021.