

University of Wisconsin-Madison
History 201: The Historian's Craft
"The History of Data and Data Science"
Spring 2021

Prof. Devin Kennedy
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(he/him/his)
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Synchronous Online Meetings (all times central):

Weekly Meetings: Mondays 8:50-10:45AM

First meeting: Monday, January 25, 8:50-10:45AM

Meeting Room:

<https://uwmadison.zoom.us/j/97958875555?pwd=dlhZR2hjS2ZmYmR2VURDRHhSekpNdz09>

Office Hours: *Thursdays and Fridays 2-4 on Zoom
appointments at <https://calendly.com/devinkennedy/officehours>

*It is expected that you schedule 2-3 appointments for 15 minute meetings with Professor Kennedy to discuss research ideas, your draft, and scholarly sources

Course Description

In science, public policy, and business, data holds enormous explanatory and argumentative power. How did this happen? When and how did numerical information and quantitative reasoning come to play such a central role in practices of knowledge gathering and decision-making in science, statecraft, and commercial enterprise? We will seek some answers to these questions, examining along the way what differentiates "facts" "information" and "data", how their character has shifted over time, and how techniques from statistics to computer databases and machine learning emerged to manage and employ them. Offering an introduction to the history of data and data sciences in Europe and North America from the 18th century to recent discussions of "big data," this course provides students with the tools to write and conduct historical research on the shifting meaning of data in society.

Course Details:

Level: Intermediate
Breadth: Humanities
L&S Credit Type: Counts as LAS credit (L&S)
General Education: Communication Part B

Modality: Online

Learning Outcomes

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

- Identify key elements in the history of statistical reasoning and quantification since the 19th century
- Plan and complete organized short and medium-length writing projects pertaining to original historical ideas including social media posts and formal research proposals
- Summarize secondary sources from history and place multiple secondary sources in conversation
- Present works-in-progress in spoken form
- Reflect upon and mobilize written and oral feedback on writing to improve written communication

Credit Hour Details

The credit standard for this course is met by an expectation of a total of 135 hours of student engagement with the course’s learning activities (at least 45 hours per credit or 9 hours per week), which include regularly scheduled meeting times (group seminar meetings of 115 minutes per week), reading, writing, required individual consultations with the instructor, and other student work as described in the syllabus.

Comm-B

This class fulfills Part B of the General Education Communication requirement. This course emphasizes speaking, listening, writing, and research throughout the semester. All assignments are structured in accordance with fulfilling the goals of Comm-B.

Academic Integrity

The purpose of this course is to help you learn a body of historical knowledge, practice methods for understanding history, and gaining tools for writing and presenting your own ideas. Misrepresenting the work of others as your own is a fundamental violation of trust within our community—and a waste of your time. If you are struggling to meet deadlines, or are tempted to use someone else’s writing in lieu of your own effort; please contact Professor Kennedy. **A late assignment is always a preferable option to one that risks your grade altogether.** Academic misconduct can result in disciplinary action including failure of the assignment/course, disciplinary probation, or suspension. For more information, refer to studentconduct.wiscweb.wisc.edu/academic-integrity/.

A note on online services and Grammarly

“AI” based essay writing services produce bad writing; and using such services would be academic misconduct. *Do not use them.* I also strongly recommend you not use the popular AI-

based writing aid Grammarly. It produces strange constructions and odd vocabulary choices. I will be able to tell if you're using it, and will suggest strongly that you do not. I am happy to work with you on vocabulary building as well as on grammar if these are stumbling blocks for you. Other resources are recommended below.

Writing Resources

The focus of this class is on the development of writing skills related to academic contexts; how to turn your ideas into text. We won't stress mechanical issues in this course, but there are resources to help you develop and improve those aspects of your writing. The History Lab and the University Writing Center can assist you at all levels of writing practice, from idea formation to proofreading.

The History Department History Lab:

<https://history.wisc.edu/undergraduate-program/the-history-lab/>

University Writing Center: <https://writing.wisc.edu/individual/>

Accessibility and Diversity

I aspire to create a classroom strengthened by students who feel heard, safe, 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. <https://diversity.wisc.edu/>

Technology and Cameras

This course meets weekly on Zoom. If your internet connection is not consistent, you are encouraged to try connecting via phone using the conference line provided on the course canvas. I request, but do not require that you keep **your camera on for the majority of our classroom time**.

All materials (text, links to audio and video clips) are provided on Canvas, but if you are having trouble, please be in touch.

Quarantine or Isolation Due to COVID-19

Students should continually monitor themselves for COVID-19 [symptoms](#) and [get tested for the virus](#) if they have symptoms or have been in close contact with someone with COVID-19.

Students should reach out to instructors as soon as possible if they become ill or need to isolate or quarantine, in order to make alternate plans for how to proceed with the course. Students are strongly encouraged to communicate with their instructor concerning their illness and the anticipated extent of their absence from the course (either in-person or remote). The instructor will work with the student to provide alternative ways to complete the course work.

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. I am happy to help make alternative accommodations.

Grade Components

- 1. Research and writing Exercises 25%**
 - 1.1. Writing Assignment 1 **5%** (Summary/Synopsis)
 - 1.2. Writing Assignment 2 **10%** (Social media post on primary source)
 - 1.3. Writing Assignment 3 **10%** (2-3 Pages Annotated Bibliography)
- 2. Presentations 15%**
 - 2.1. Presenting a scholarly work from the annotated bibliography 7.5%
 - 2.2. Presenting Research Proposal 7.5%
- 3. Capstone Project: 30%**
 - 3.1. Draft Research proposal: 8-10 Pages **10%**
 - 3.2. Final Research proposal: 8-10 Pages **20%**
- 4. Participation 30%**
 - 4.1. Peer Review Conference: Preparation and Comments (on Research Proposal 10%)
 - 4.2. Participation in class discussion, attendance (20%)

Brief Overview of Assessments and Exercises

(further details to be given when exercises are assigned)

- 1.1. Writing Assignment 1: Scholarly Summary/synopsis **5%** (Due Feb 25)

You will write a short blog post on the course canvas of 250-500 words, summarizing a scholarly work that is in the general area of your proposed research in the class. You will be provided with a set of options.

Brief Overview of Assessments and Exercises (continued)

1.2. Writing Assignment 2 Social Media Post on Primary Source **10%** (DUE TK)

In a piece of writing totaling 400-500 words, you will introduce, summarize, and contextualize a primary source you are considering for your research proposal, with 2-3 accompanying images related to the source and its context. The format of the writing is as if you were a historical institution like a museum, writing a social media post (for example an Instagram story) about an event, text or physical artifact for a general audience.

1.3. Writing Assignment 3 Annotated Bibliography **10%** (Due March 25)

You will gather a number of secondary and primary sources that will be the basis for your research proposal, and, for each source, provide an approximately 30-50 word synopsis, emphasizing the value of the source for your purposes. This will then be used in the 'literature review' portion of your research proposal.

2.1 Presenting a scholarly work from the annotated bibliography **7.5%** (Due March 29)

In a presentation of approximately five minutes, with at least two presentation slides, or a one-page notes sheet for your classmates, you will summarize the historical content and historiographical argument of a piece of scholarship that is used in your annotated bibliography

2.2 Presenting Research Proposal **7.5%** (Due April 12)

In a presentation of approximately 5-7 minutes, you will briefly introduce your research proposal, its research question, sources, stakes, and main literature.

3.1 Draft Research Proposal **10 %** (Due April 8)

The culmination of the course is a research proposal for a historical project on a topic related to the history of data, information, mathematics, algorithms, or data sciences. The proposal, an essay of about 8-10 pages, will describe a research question, overview some scholarly literature on the subject, describe potential primary sources that could assist in answering it, and provide a description of the 'what' and 'why' of the research: your hypothesis about what the research might show, and why the story matters.

3.2 Final Research Proposal **20 %** (Due April 30)

You will receive feedback from Professor Kennedy and your classmates, including through a peer feedback conference and from your presentation. You will draw on that feedback in producing a full revision of your research proposal into a polished product.

Brief Overview of Assessments and Exercises (continued)

4.1 Peer Review Conference and Comments **10%** (Due April 19 before class)

You will provide productive written and spoken feedback to a classmate on their research proposal, emphasizing common areas of research interest, and areas of improvement.

4.2 Participation in class discussion, attendance **20 %**

You must attend all class meetings. You are permitted one “freebie” unexcused, unexplained absence. If something comes up (a doctor’s visit, family situation) you should be in touch 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, but you have three unexcused absences you'll receive an 85% on your discussion grade for the semester).

Discussion Participation Rubric

Excellent (90-100)	Good (80-90)	Competent (70-80)	Inadequate (60-70)	Fail (0-60)
-Mastery over readings and previous discussion -Explores questions rigorously -Comes to class with interpretations and questions -Engages others respectfully	-Knows readings well -Consistent preparation and involvement -Offers analysis of texts in class	-Basic grasp of reading -Mostly offers facts or surface-level interpretations -Contributes when called upon but not actively engaged	-Insufficient command of reading -Attempts to contribute facts or interpretations when called but unable to offer substance	-Uninvolved -Unexcused -Disruptive

Week-by-week Overview

How to read this schedule:

Each week has a title, a date for the class meeting on Zoom, a “preparation” (what to do for that class) and on many weeks, an assignment marked with “***” which is either do at class, or more often, at the end of the week.

Every Friday, I’ll post on canvas the plan for the following week, as a reminder of readings and assignments, and so you’ll have an idea what sort of skills and historical materials we’ll be discussing during our Monday sessions

****Be sure to check “preparation” is: that’s the homework you should have completed before class.**

Week 1: Introduction: Facts, Information, Data, Knowledge

Meeting: January 25 / 8:50am-10:45am

Preparation:

None

Week 2: Bits of Knowledge and Information Overload

Meeting: February 1 / 8:50am-10:45am

Preparation:

Read [on canvas]

1. Blair, Ann Too Much to Know: Managing Scholarly Information before the Modern Age Introduction and Chapter 1
2. Poovey, Mary History of the Modern Fact Chapter 2: “Accommodating Merchants: Double-Entry Bookkeeping, Mercantile Expertise and the Effect of Accuracy”

***Schedule meetings with Professor Kennedy

Week 3: Numbers and Bodies

Meeting: February 8 / 8:50am-10:45am

Preparation:

Read: [on canvas]

1. Rosenthal, Caitlin Accounting for Slavery: Masters and Management Introduction and Chapter 3: “Slavery’s Scientific Management.”
2. Bowker, Geoffrey and Susan Leigh Star Sorting Things Out: Classification and its consequences Introduction

Week 4: Numerical Data and the Pursuit of Objectivity

Meeting: February 15 / 8:50am-10:45am

Preparation:

Read [on canvas]

1. Porter, Theodore Trust in Numbers: The Pursuit of Objectivity in Science and Public Life: Introduction, + Chapters 1, 5, and 7

Week 5: Statistical Methods and Reasoning

Meeting: February 22 / 8:50am-10:45am

Preparation:

Read [on canvas]

1. Porter, Theodore The Rise of Statistical Thinking 1820-1900: Introduction, Chapters 1 and 7

*****Assignment 1.1 Scholarly Summary Due Thursday Feb 25 11:59PM**

Week 6: Computer Databases 1

Meeting: March 1 / 8:50am-10:45am

Preparation:

Read [on canvas]

1. Stevens, Hallam Life out of Sequence: A Data-Driven History of Bioinformatics: Introduction, Chapter 1: Building Computers, and Chapter 5: Ordering Objects

Week 7: Computer Databases 2

Meeting: March 8 / 8:50am-10:45am

Preparation:

Read [on canvas]

1. Jones, Matthew “Querying the Archive: Data Mining from Apriori to PageRank” in Daston ed. *Science in the Archives: Pasts, Presents, Futures* (2017)
2. Radin, Joanna lecture “When People are Data: How Medical History Matters for our Digital Age” *National Institutes of Health* June 9, 2020
<https://videocast.nih.gov/watch=35473>

*****Assignment 1.2 Mock Social Media Post on Primary Source Due Thursday March 11 11:59PM**

Week 8: Privacy

Meeting: March 15 / 8:50am-10:45am

Preparation:

Read [on canvas]

1. Igo, Sarah, “Too Much Information” *The Hedgehog Review* Spring, 2015.

- Zuboff, Shoshanna “Big other: surveillance capitalism and the prospects of an information civilization” *Journal of Information Technology* (2015) 30 75-89.

Week 9: Machine Learning

Meeting: March 22 / 8:50am-10:45am

Preparation:

Read [on canvas]

- Jones, Matthew, “How We Became Instrumentalists (Again): Data Positivism since World War II” *Historical Studies in the Natural Sciences* (2018) 48 (5): 673–684.
- Buolamwini, Joy and Timnit Gebru, “Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification” *Proceedings of Machine Learning Research* 81:1–15, 2018

*****Assignment 1.3 Annotated Bibliography Due Thursday March 25 11:59PM**

Week 10: Research Discussions and Future Topics I (Science)

Meeting: March 29 / 8:50am-10:45am

Preparation:

*****Assignment 2.1 Presenting a scholarly work from the annotated bibliography**

Read [on canvas]

- Anderson, Chris “The End of Theory: The Data Deluge Makes the Scientific Method Obsolete,” *Wired* May 2008

Listen

- Radiolab “Limits of Science” podcast segment
<https://www.wnycstudios.org/podcasts/radiolab/segments/91712-limits-of-science>

Week 11: Research Discussions and Future Topics II (Surveillance)

Meeting: April 5 / 8:50am-10:45am

Preparation:

Watch: (one of two) [links on canvas]

- Watch: Brayne, Sarah Book Talk on “Predict and Surveil: Data, Discretion, and the Future of Policing” (on canvas)
OR
- Watch: Jacobsen, Annie Book Talk on First Platoon: A Story of Modern War in the Age of Identity Dominance (on canvas)

*****Assignment 3.1** Research Proposal Draft Due Thursday April 8, 11:59PM

Week 12: Research Discussions and Future Topics III (Climate)

Meeting: April 12 / 8:50am-10:45am

Preparation:

*****Assignment 2.2:** Presentation of Research Proposal

Read [on canvas]

1. Ensmenger, Nathan “The Dirty Parts of the Computer World” *The Bulletin of the Atomic Sciences* April 11, 2016
OR
2. Zero Cool [a pseudonym for a Microsoft Employee] “Oil is the New Data” *Logic* 9 December 7, 2019

Week 13: Research Discussions and Future Topics IV (Differential Harms)

Meeting: April 19 / 8:50am-10:45am

Preparation:

*****Assignment 4.1:** Peer Review Comments on Research proposal (due before class start, discussed in class)

Read [on canvas]

1. Angwin, Julia et al. “Machine Bias: Risk Assessments in Criminal Sentencing” *ProPublica report May 23 2016*

Week 14: Research Discussions and Wrap-up Conversation

Meeting: April 26 / 8:50am-10:45am

Preparation: TBA

*****Assignment 3.2** Research Proposal Final Version Due Friday April 30, 11:59PM