

# DATA, WORK & ORGANIZATIONS

OS 495 Section 001

Fall 2021

M/W 4-5:30pm, 855 Weiser Hall

**Professor:** Elizabeth Popp Berman

**Email:** [epberman@umich.edu](mailto:epberman@umich.edu)

**Office hours:** Tu 3-5pm (809 Weiser Hall or by Zoom), or email for appointment

Sign up at: <https://calendly.com/epberman/office-hours>

## **COURSE DESCRIPTION**

---

Data, numbers, algorithms, and analytics are transforming work and organizations. This class will help you understand how. Drawing on both classic insights from organization theory and recent work on technologies, we'll explore how data is changing the nature of work, what managers do, and how organizations make decisions. You'll learn about auditing algorithms, why numbers are often ignored, how "neutral" data can reproduce existing inequalities, and how to use data ethically. Topics will include AI and hiring, social media and journalism, algorithmic bias, the gig economy, technology and workplace discipline, managing with metrics, numbers and policing, and socially responsible data use.

The ultimate goal of this class is to attune you to some of the less obvious ways that data and its technologies work in real organizational contexts. When you are in a position to be making decisions about whether an automated hiring system, about how to implement new analytics that promise to achieve greater efficiency, or perhaps find yourself frustrated that your organization seems to ignore data entirely, I want you to have a bigger toolkit for making wise decisions, anticipating unintended consequences, and understanding social effects. I also want you to recognize the ways that data is, in a very real sense, power, and to be able to think carefully about who it helps and who it harms in any given situation.

We will achieve these goals by working through several major topics. We'll start the semester with some history and conceptual work, jumping back and forth between present data controversies and surprisingly similar debates from 50 or 100 years ago. We'll then spend some time looking at how organizations use data and numbers in practice across a range of settings. We'll devote a few weeks to the question of how data-driven technologies are reorganizing work—both in lower-paying jobs, like retail, and professional ones, like journalism. We'll then move on to some of the ways that data, algorithms and artificial intelligence are being used in the hiring process, and then wrap up with some classes focused on ethics, and the question of how data can be used for good.

## **COURSE REQUIREMENTS AND GRADING**

---

We will be reading one book for this class, which you can purchase at your favorite bookseller or read electronically through the library. All other readings will be posted to Canvas ([umich.instructure.com](https://umich.instructure.com)). The book is:

Brayne, Sarah. 2020. *Predict and Surveil: Data, Discretion, and the Future of Policing*. Oxford: Oxford University Press.

Your grade will be based on several components, described below. Assignments will be submitted through Canvas.

**Participation (15% of grade).** This class works best when students are actively engaged, thinking and talking about the issues we discuss. Attendance is important—but so is showing knowledge of the readings, asking meaningful questions, and engaging in productive discussion. This is not a lecture-centric class. Because we are still in a pandemic, there is no official policy this semester about how many absences are okay. If you need to miss class, miss class. (And please do, if you have symptoms or think you may have been exposed to COVID!) However, please give me a heads up beforehand if possible, and if not, as soon afterward as you are reasonably able.

**Two short reflections (10% of grade total).** These are two 2-pp. reflection memos, one due close to the beginning of the semester, and one due close to the end. The first one will ask you to think ahead to the final project and consider what problem you might be interested working on—even before you have a full sense of what topics we will cover. The second will ask you to take a look back at the end of the semester, and identify three takeaways from the class and briefly discuss them. Reflection memos are due by 11:59pm the day before class (Tu 9/7, Tu 12/7).

**Six reading responses (20% of grade).** Engaging with the reading is a critical part of this class. Over the course of the semester, you will submit six written responses (of about 400-500 words) to the readings. You can choose which readings to respond to, but there will be some guidelines so that your responses are spread out over the course of the semester. For some days, the response will be fairly unstructured: you might touch on questions you have, think of similar examples, or discuss your reaction. For others, I will provide a specific question or ask you to do a specific thing related to the reading (like identify and discuss a real-world example of the phenomenon it describes). Reading responses are due by 11:59pm the day before class.

**Midterm analytical paper (20% of grade).** You will write an analytical paper of about 1500 words (4-5 pp.) on your choice of two topics related to the readings we will be doing in the first half of the class. The midterm paper is due at 11:59pm on Fri 10/15.

**Final project (35% of grade).** This project has a team component and an individual component. Based on overlapping interests, you will be placed into a team of 3-4 people and will identify together a current controversy around data and its use. This may be about the unintended implications of some business application (like the use of AI in hiring), a broader social issue (like how work should be regulated in the gig economy) or something else entirely—the scope here is pretty broad. Your team will propose and revise a topic (with feedback from me), then research that topic together and develop and give a presentation on it to the rest of the class (10%). You will then individually write a report of about 3000 words (8-10 pp.) that analyzes your controversy and proposes some guidelines for decision-making around it (25%). This project will be broken down in more detail as we get to the second half of the class. The presentations will take place on M 12/6 and W 12/8, and the final report is due at 11:59pm on Wed 12/15.

## **A FEW OTHER NOTES**

---

### COVID caveats

We are still in a pandemic. Many if not most of us are still dealing with related challenges. I understand that students may need more flexibility now than during “normal” times, and expect to extend that if

and when it turns out to be needed. In return, I hope that you will be similarly understanding if circumstances arise that cause bumps in the road this semester.

Our classroom is not equipped for Lecture Capture, which means we do not have a way to record classes so that students who are not able to attend can keep up. If we have significant numbers of students needing to miss class for any reason, we will evaluate our options. The university is currently strongly discouraging online teaching this fall.

**If you find that you are having issues**—physical, mental, familial, personal, whatever—**that are interfering with your ability to succeed in this class, please let me know and we will work something out.** I am not going to ask a lot of questions or require proof. My goal is for everyone to do as well as possible, and get as much out of the class as possible, during a challenging time.

I do reserve the right to change the syllabus or assignments if our collective situation changes significantly. I will always give you plenty of notice before making any changes, and the broad intentions for each assignment (interaction with the class, engagement with the readings, analysis of a real-world problem, etc.) will remain the same.

#### Academic integrity

While you are encouraged to talk with your peers about the content of the course, you are expected to complete each assignment on your own, or, as relevant, with your team members. In particular, while you will conduct research for your final project and write a presentation as a group, your final report must be written completely independently, although you are welcome discuss your report with other members of your team.

All students are required to abide by the academic honesty guidelines of the University of Michigan. Among other things, this means: (1) Students must submit only their own, original work in fulfillment of course requirements; and (2) Consulted works must be cited using an accepted documentation style. Violating this policy may cause the student to receive a zero on the assignment, to fail the course, to receive academic probation, or to be expelled from the university. If you have questions, please ask.

## SCHEDULE

Date	Broad topic	Specific topic	Reading(s)	Due this week	Memos by this date*
M 8/30	Intro	Intro			
W 9/1	Intro	The dilemmas of data	<a href="#">How A-levels work</a> <a href="#">Algorithms Can't Fix Broken Systems</a> <a href="#">On A Levels Ofqual and Algorithms</a>		
M 9/6		Labor Day, no class	-	Assn 1 (9/7)	
W 9/8	History	Rational/normative/critical: wave 1	Excerpt from Taylor's <i>Principles of Scientific Management</i> (1911)  <a href="#">Spend 15 minutes exploring this website on the Human Relations movement</a> Rosenthal, " <a href="#">How Slavery Inspired Modern Business Management</a> " (2018)		
M 9/13	History	Rational/normative/critical: wave 2	- <a href="#">Podcast: "Why the Bronx Burned"</a> Excerpt from Harry Braverman's <i>Labor and Monopoly Capital</i> (1974)		
W 9/15	History	Big data: different, but same?	"Big Data: The Management Revolution" (HBR 2012) "Companies Are Failing in their Efforts to Become Data-Driven" (HBR 2019)		1
M 9/20	Theory	Myth, ceremony & decoupling	Bromley & Powell, "From Smoke and Mirrors to Walking the Talk" (2012)		
W 9/22	Theory	The politics of data	Winner, "Do Artifacts Have Politics?" (1980)		
M 9/27	Orgs	Numbers as myth	Mazmanian & Beckman, "'Making' Your Numbers: Engendering Organizational Control Through a Ritual of Quantification" (2018)		

W 9/29	Orgs	Data & recoupling	Hallett, "The Myth Incarnate: Recoupling Processes, Turmoil, and Inhabited Institutions in an Urban Elementary School" (2010)	2
M 10/4	Orgs	Variation within orgs	Anthony, "When Knowledge Work and Analytical Technologies Collide: The Practices and Consequences of Black Boxing Algorithmic Technologies" (2021)	
W 10/6	Orgs	Case study: Policing	Brayne, <i>Predict and Surveil: Data, Discretion, and the Future of Policing</i> (2020), Chs. 1-3 <a href="#">Podcast: The Crime Machine (part 1)</a>	
M 10/11	Orgs	Case study: Policing	Brayne, <i>Predict and Surveil</i> , Chs. 4-5 <a href="#">Podcast: The Crime Machine (part 2)</a>	Midterm paper (10/15)
W 10/13	Orgs	Case study: Policing	Brayne, <i>Predict and Surveil</i> , Chs. 6-8 <a href="#">Can You Make AI Fairer Than a Judge? Play Our Courtroom Algorithm Game</a>	3
M 10/18		Fall Break, no class	-	
W 10/20	Work	Truckers	Levy, "The Contexts of Control: Information, Power, and Truck-Driving Work" (2015) <a href="#">Video: Automation Is Coming for Truckers - But First, They're Being Watched</a>	
M 10/25	Work	Truckers	Guest lecture: Karen Levy, Cornell University (remote talk to UM Science, Technology, Medicine & Society Colloquium)	
W 10/27	Work	Gig work	Rosenblat, <i>Uberland: How Algorithms Are Rewriting the Rules of Work</i> (2019), Intro + Ch. 5	
M 11/1	Work	Journalism	Christin, "Counting Clicks: Quantification and Variation in Web Journalism in the United States and France" (2018)	4
W 11/3	Work	Freelancers	Rahman, "The Invisible Cage: Workers' Reactivity to Opaque Algorithmic Evaluations" (2021)	

M 11/8	Work	Overview	Kellogg, Valentine & Christin, "Algorithms at Work: The New Contested Terrain of Control" (2020)	
W 11/10	Hiring	AI and hiring	Broussard, <i>Artificial Unintelligence</i> , Ch. 3 ("Hello, AI") + Ch. 7 ("Machine Learning: The DL on ML") <a href="#">A Face-Scanning Algorithm Increasingly Decides Whether You Deserve the Job</a>	
M 11/15	Hiring	Past vs. present	Lussier, "Temperamental Workers: Psychology, Business, and the Humm-Wadsworth Temperament Scale in Interwar America" (2018)	5
W 11/17	Hiring	Algorithmic bias	Ajunwa, "The Paradox of Automation as Anti-Bias Intervention" (2020) (read only pp. 1671-1707)	
M 11/22	Hiring	Data and hiring	Kiviat, "The Art of Deciding with Data: Evidence from How Employers Translate Credit Reports into Hiring Decision" (2019)	
W 11/24		Thanksgiving, no class		
M 11/29	Data for Good	(Readings for this week may change with class input)	<a href="#">Scientists and Activists Use Data to Give a Platform to People of Color</a> <a href="#">Detroit Community Technology Project: Data Justice</a>	
W 12/1	Data for Good		Davis & Shibulal, "Taming Platform Capitalism to Meet Human Needs" (2019) <a href="#">data.org</a> social impact use cases	6
M 12/6	Presentations			Presentations Assn 2 (12/7)
W 12/8	Presentations		Final report due W 12/15	

\* Of the six total reading response memos, you should have this many turned in by this date (so: one memo by W 9/15, two memos by W 9/29, etc.)