Policy and Politics of Government Algorithms
Public Policy 474 | Winter 2023

Class meetings: Tuesday/Thursday 2:30–3:50 pm, Weill 1230 ([Canvas site](#))
Instructor: Ben Green (Weill 4129, bzgreen@umich.edu)
Office hours: Thursday 4–5 pm, or by appointment ([OH signup link](#))

Course Description and Objectives
Governments increasingly use algorithms (such as machine learning predictions) as a central tool to distribute resources and make important decisions. Although these algorithms are often hailed for their ability to improve public policy implementation, they also raise significant concerns related to racial oppression, surveillance, inequality, technocracy, and privatization. While some government algorithms demonstrate an ability to advance important public policy goals, others— such as predictive policing, facial recognition, and welfare fraud detection—exacerbate already unjust policies and institutions. This class examines the opportunities and challenges raised by the use of algorithms in public policy. The course aims to help students 1) thoughtfully reason about the social benefits and harms of government algorithms through the lens of normative and ethical analysis, 2) connect the ethical dilemmas raised by government algorithms to contexts of historical and present-day oppression, 3) apply these moral frameworks to policy domains where algorithms are being applied and debated, and 4) analyze and develop policy interventions for regulating the use of algorithms in government. Throughout, we will look to both theoretical writings regarding the politics of algorithms and applied case studies of computational systems and public policies in practice. Students will engage with these topics through readings, class discussions, and a research project related to the topics of this course. No prior technical background is necessary.

Course Requirements

Assignments and grading

Attendance and Participation	25%
Discussion posts	10%
Paper 1	15%
Paper 2	25%
Paper 3	25%

Attendance and Participation (25%)
This course is discussion-based: our class time will be almost entirely devoted to discussion. I expect everyone to participate actively in class. Active engagement with the reading material and thoughtful participation in discussions are crucial to the success of the course as well as to your own success in it.

It is essential that you come to class a) having done the readings and b) prepared to discuss them. This does not mean that you need to fully understand everything you read before coming to class. We will be engaging with challenging material, and everyone will have different points of familiarity and novelty. It does, however, mean that you should be reading actively: articulating questions about things you don't understand, analyzing arguments that you find convincing and compelling (or not convincing and compelling), and reflecting on the connections with other readings from the class. Contributions to class should reveal your familiarity with the assigned readings, your willingness to analyze the issues and problems we are discussing, and your ability to integrate and constructively criticize the comments of your classmates.

It is also necessary that you be in attendance for the full duration of class. Unexcused absences will lower your grade. If you need to miss class due to Covid exposure/quarantine, illness, religious observance, family emergencies, or other reasons, please let me know (ahead of time unless not possible) so that we can mark it as an excused absence. If you will need more than two excused absences during the course of the semester, we can discuss arrangements to ensure your successful participation in the class.

Discussion Posts (10%)
Class discussions will be supported by brief reading responses before each class. These posts will encourage you to read actively, help seed discussion in class, and provide me with a sense of how everyone is responding to the readings.

There will be discussion boards on Canvas for each class session that has required readings. After the first class, there are 23 class sessions with required reading. You are required to provide a Canvas post for 17 of those class sessions. You may choose which days to skip and do not need advance approval. Discussion posts are due at 11:59 am on the day of each class.

The posts should be short but should reflect your engagement with the readings. Each post should contain two bullet points. Each bullet point should be 1-2 sentences long. The contents of these bullet points should not summarize the readings. Instead, they should convey your responses to the readings. For instance, your posts could share clarifying questions about something you didn't understand; reactions to arguments that you found surprising, exciting, or unconvincing; topics you'd like to talk about in class; connections to readings from a prior class; or references to outside news stories that connect to the day's readings.

Papers (65%)

There will be three writing assignments, each designed to deepen your engagement with normative analysis and its applications to government algorithms. I will provide more specific details about each assignment several weeks ahead of each deadline.

Submission details:

- All deadlines imply 11:59pm on the date specified.
- Extensions should be arranged with my approval in advance of the due date.
- Unexcused late papers will be penalized, with steeper penalties the later that they are.
- Please submit all assignments as Microsoft Word documents.
- Bibliographic material does not count towards the word count.
- I encourage you to take advantage of the [Ford School Writing Center](#).

Paper 1: Policy memo (15%; 600–800 words; due on February 12)

The first paper will be a policy memo to a government official about a particular algorithm. I will provide a prompt about a government agency that is considering whether and how to use algorithms. Your memo will help the leader of that agency consider the normative implications of potential choices.

Paper 2: Algorithm case study (25%; 800–1,000 words; due on March 19)

The second paper will be a normative analysis of a particular government algorithm. With my help, you will select a government algorithm of particular interest. Your paper should analyze your case through the normative frames from class.

Paper 3: Governance of case study (25%; 1,000–1,250 words; due on April 23)

The third paper will build off of your second paper with a focus on governance. This paper will analyze the governance of your chosen algorithm and make recommendations for reform.

Paper resubmissions

For papers 1 and 2, you will be allowed—encouraged, in fact—to resubmit a revised version of your paper after I provide feedback on your initial submission. After I return graded papers, you will have one week to submit a revision (I will announce the exact resubmission deadline when I hand back graded papers). I will then grade the new paper and weigh it evenly with your original submission. There is no penalty if you do not submit a revised version of your paper.

To summarize: Suppose you get 88% on the initial submission of Paper 1. If you do not submit a revision, then your Paper 1 grade will be 88%. Now suppose that you submit a revision and get 94% on this second version. Then your Paper 1 grade will be 91%.

Course Schedule

PART 1: FOUNDATIONS

Thursday, January 5: Introduction
David Scharfenberg, "Computers can solve your problem. You may not like the answer," *The Boston Globe* (2018).

Tuesday, January 10: Ethics and social change
Elizabeth Anderson, "How to be a Pragmatist," in *The Routledge Handbook of Practical Reason*, Routledge, edited by Ruth Chang and Kurt Sylvan, Routledge (2020).
Erik Olin Wright, "The Tasks of Emancipatory Social Science," in *Envisioning Real Utopias*, Verso (2010).

Thursday, January 12: Normative reasoning
Eileen Sullivan and Mary Segers, "Ethical Issues and Public Policy," in *Handbook of Public Policy Analysis*, edited by Frank Fischer and Gerald R. Miller, Routledge (2006). [Skip the sections that run from pages 316–324.]
Iris Marion Young, "Five Faces of Oppression," in *Justice and the Politics of Difference*, Princeton University Press (1990).

Tuesday, January 17: Introduction to machine learning
Meredith Broussard, "Machine Learning: The DL on ML," in *Artificial Unintelligence*, MIT Press (2018).
R2D3, "A visual introduction to machine learning" (2015).

Thursday, January 19: The politics of technology
Sheila Jasanoff, "Technology as a Site and Object of Politics," in *The Oxford Handbook of Contextual Political Analysis*, edited by Robert E. Goodin and Charles Tilly, Oxford University Press (2006).
Langdon Winner, "Do Artifacts Have Politics?," in *The Whale and the Reactor*, University of Chicago Press (1989).

Tuesday, January 24: The politics of data and algorithms
danah boyd and Kate Crawford, "Critical Questions for Big Data," *Information, Communication & Society* (2012).
Mittelstadt et al., "The ethics of algorithms: Mapping the debate," *Big Data & Society* (2016).

Thursday, January 26: Recap and review
No readings.

PART 2: ALGORITHMS IN PRACTICE

Tuesday, January 31: Pretrial risk assessments
Arnold Ventures, "Statement of Principles on Pretrial Justice and Use of Pretrial Risk Assessment," (2019).
The Leadership Conference on Civil and Human Rights, "The Use of Pretrial 'Risk Assessment' Instruments: A Shared Statement of Civil Rights Concerns" (2018).

Thursday, February 2: Policing
Ben Green, "The Just City," in *The Smart Enough City: Putting Technology in Its Place to Reclaim Our Urban Future*, MIT Press (2019).
Stop LAPD Spying Coalition, "Before the Bullet Hits the Body: Dismantling Predictive Policing in Los Angeles" (2018).

Tuesday, February 7: Facial recognition
Amy Harmon, "As Cameras Track Detroit's Residents, a Debate Ensues Over Racial Bias," *The New York Times* (2019).
Kashmir Hill, "Wrongfully Accused by an Algorithm," *The New York Times* (2020).

Thursday, February 9: Education
Sam Dillon, "Formula to Grade Teachers' Skill Gains Acceptance, and Critics," *The New York Times* (2010).
Himabindu Lakkaraju et al., "A Machine Learning Framework to Identify Students at Risk of Adverse Academic Outcomes," *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining* (2015).
Daan Kolkman, "'F**k the algorithm'?: What the world can learn from the UK's A-level grading fiasco," *LSE Impact Blog* (2020).

==Sunday, February 12: Paper 1 Due==

Tuesday, February 14: Child welfare
Dan Hurley, "Can an Algorithm Tell When Kids Are in Danger?" *The New York Times Magazine* (2018).
Logan Stapleton et al., "Imagining new futures beyond predictive systems in child welfare: A qualitative study with impacted stakeholders," *ACM Conference on Fairness, Accountability, and Transparency* (2022).

Thursday, February 16: Unemployment (Guest speaker: Gabriel Grill)
Stephanie Wykstra, "Government's Use of Algorithm Serves Up False Fraud Charges," *Undark* (2020).
Doris Allhutter et al., "Algorithmic Profiling of Job Seekers in Austria," *Frontiers in Big Data* (2020).

Tuesday, February 21: Housing
Caitlin Thompson, "Who's homeless enough for housing? In San Francisco, an algorithm decides," *Coda Story* (2021).
Chris Bousquet, "How New York is Protecting Affordable Apartments with Analytics," *Data-Smart City Solutions* (2018).

Thursday, February 23: Recap and review
No readings.

Tuesday, February 28: No class (spring break)

Thursday, March 2: No class (spring break)

Tuesday, March 7: COVID vaccine distribution
Natasha Singer, "Where Do Vaccine Doses Go, and Who Gets Them? The Algorithms Decide," *The New York Times* (2021).
Cat Ferguson and Karen Hao, "This is how America gets its vaccines," *MIT Technology Review* (2021).
Cat Ferguson, "What went wrong with America's $44 million vaccine data system?," *MIT Technology Review* (2021).

Thursday, March 9: Public health
Diego Jemio et al., "The Case of the Creepy Algorithm That 'Predicted' Teen Pregnancy," *Wired* (2022).
Ian Pan et al., "Machine Learning for Social Services: A Study of Prenatal Case Management in Illinois," *American Journal of Public Health* (2017).
Eric Potash et al., "Validation of a Machine Learning Model to Predict Childhood Lead Poisoning," *JAMA Network Open* (2020).

Tuesday, March 14: Tax audits
Emily Black et al., "Algorithmic Fairness and Vertical Equity: Income Fairness with IRS Tax Audit Models," *ACM Conference on Fairness, Accountability, and Transparency* (2022).

Thursday, March 16: Recap and review
No readings.

Sunday, March 19: Paper 2 Due

PART 3: GOVERNANCE AND REGULATION

Tuesday, March 21: Discretion in decision-making
Lawrence Solum, "Legal Theory Lexicon: Rules, Standards, and Principles," *Legal Theory Blog* (2009).
Reuben Binns, "Human Judgment in algorithmic loops: Individual justice and automated decision-making," *Regulation & Governance* (2020).

Ben Green and Amba Kak, "The False Comfort of Human Oversight as an Antidote to A.I. Harm," *Slate* (2021).

Thursday, March 23: Democratizing algorithms
Johannes Himmelreich, "Against 'Democratizing AI,'" *AI & Society* (2022).

Tuesday, March 28: Public-private partnerships
Chiara Corelli, "Why Privatization is Wrong," *Boston Review* (2020).
David Rider, "Google firm wins competition to build high-tech Quayside neighbourhood in Toronto," *Toronto Star* (2017).
Bianca Wylie, "In Toronto, Google's Attempt to Privatize Government Fails—For Now," *Boston Review* (2020).

Thursday, March 30: Opacity and transparency
Rebecca Wexler, "Code of Silence," *Washington Monthly* (2017).
Mike Ananny and Kate Crawford, "Seeing without knowing: Limitations of the transparency ideal and its application to algorithmic accountability," *New Media & Society* (2018).

Tuesday, April 4: Institutional capacity
Ben Green, "The Innovative City," in *The Smart Enough City: Putting Technology in Its Place to Reclaim Our Urban Future*, MIT Press (2019).
Mark Lerner, "The Government Technology Silver Bullet: Hiring In-House Technical Talent," *Belfer Center for Science and International Affairs* (2021).

Thursday, April 6: Procurement
Lavi M. Ben Dor and Cary Coglianese, "The Procurement Path to AI Governance," *The Regulatory Review* (2022).
Dillon Reisman, et al., "Algorithmic Impact Assessments: A Practical Framework for Public Agency Accountability," *AI Now Institute* (2018).

Tuesday, April 11: AI regulation
Lilian Edwards, "The EU AI Act: a summary of its significance and scope," *Ada Lovelace Institute* (2022).
Khari Johnson, "The Fight to Define When AI is 'High Risk,'" *Wired* (2021).

Thursday, April 13: Organizing and advocacy
Tawanna Petty, "Safe or Surveilled?" *Logic Magazine* (2020).
Tate Ryan-Mosley and Jennifer Strong, "The activist dismantling racist police algorithms," *MIT Technology Review* (2020).
Lilly Irani and Khalid Alexander, "The Oversight Bloc," *Logic Magazine* (2021).

Tuesday, April 18: Wrap-up
No readings.

Sunday, April 23: Paper 3 Due

Ford School and UM Policies

Ford School Inclusivity Statement: Members of the Ford School community represent a rich variety of backgrounds and perspectives. We are committed to providing an atmosphere for learning that respects diversity. While working together to build this community we ask all members to:
- share their unique experiences, values and beliefs
- be open to the views of others
- honor the uniqueness of their colleagues
- appreciate the opportunity that we have to learn from each other in this community
- value one another's opinions and communicate in a respectful manner
- keep confidential discussions that the community has of a personal (or professional) nature
- use this opportunity together to discuss ways in which we can create an inclusive environment in Ford classes and across the UM community

Ford School Public Health Protection Policy: In order to participate in any in-person aspects of this course—including meeting with other students to study or work on a team project—you must follow all the public health safety measures and policies put in place by the State of Michigan, Washtenaw County, the University of Michigan, and the Ford School. Up to date information on U-M policies can be found [here](#). It is expected that you will protect and enhance the health of everyone in the Ford School community by staying home and following self-isolation guidelines if you are experiencing any symptoms of COVID-19.

Student Mental Health and Wellbeing: The University of Michigan is committed to advancing the mental health and wellbeing of its students. We acknowledge that a variety of issues, both those relating to the pandemic and other issues such as strained relationships, increased anxiety, alcohol/drug problems, and depression, can directly impact students' academic performance and overall wellbeing. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. You may access counselors and urgent services at [Counseling and Psychological Services](#) (CAPS) and/or [University Health Service](#) (UHS). Students may also use the Crisis Text Line (text '4UMICH' to 741741) to be connected to a trained crisis volunteer. You can find additional resources both on and off campus through the [University Health Service](#) and through [CAPS](#).

Accommodations for Students with Disabilities: If you believe you need an accommodation for a disability, please reach out to U-M [Services for Students with Disabilities (SSD)](#) office to help determine appropriate academic accommodations and how to communicate about your accommodations with your professors. Any information you provide will be treated as private and confidential.

Academic Integrity: The Ford School academic community, like all communities, functions best when its members treat one another with honesty, fairness, respect, and trust. We hold all members of our community to high standards of scholarship and integrity. To accomplish its mission of providing an optimal educational environment and developing leaders of society, the Ford School promotes the assumption of personal responsibility and integrity and prohibits all forms of academic dishonesty, plagiarism and misconduct. Academic dishonesty may be understood as any action or attempted action that may result in creating an unfair academic advantage for oneself or an unfair academic advantage or disadvantage for any other member or members of the academic community. Plagiarism involves representing the words, ideas, or work of others as one's own in writing or presentations, and failing to give full and proper credit to the original source. Conduct, without regard to motive, that violates the academic integrity and ethical standards will result in serious consequences and disciplinary action. The Ford School's policy of academic integrity can be found in the MPP/MPA, BA, and PhD Program handbooks. Additional information regarding academic dishonesty, plagiarism and misconduct and their consequences is available at: http://www.rackham.umich.edu/current-students/policies/academic-policies/section11#112

Use of Technology: Students should follow instructions from their instructor as to acceptable use of technology in the classroom, including laptops, in each course. All course materials (including slides, assignments, handouts, pre-recorded lectures or recordings of class) are to be considered confidential material and are not to be shared in full or part with anyone outside of the course participants. Likewise, your own personal recording (audio or video) of your classes or office hour sessions is allowed only with the express written permission of your instructor. If you wish to post course materials or photographs/videos of classmates or your instructor to third-party sites (e.g. social media), you must first have informed consent. *Without explicit permission from the instructor and in some cases your classmates, the public distribution or posting of any photos, audio/video recordings or pre-recordings from class, discussion section or office hours, even if you have permission to record, is not allowed and could be considered academic misconduct.*

Please review additional information and policies regarding academic expectations and resources at the Ford School of Public Policy at: https://intranet.fordschool.umich.edu/academic-expectations.