

Civic Tech and Algorithms for Social Good Spring 2026

This course introduces students to the field of civic technology and examines how civic digital tools and algorithms shape public life. We explore how civic tech systems are designed, what policy goals they advance, and what trade-offs they create for different communities. Students will learn to reason about public good through multiple frameworks and to evaluate civic tech tools not just by their technical features, but by social impact, risks, and limitations. They will gain knowledge of frameworks and accessible tools for civic tech design, testing, and sharing, and the means of assessing their impact.

Course Plan

We'll be meeting weekly on Thursdays at 10:10 - 13:10 EST (16:10 - 19:10 CET but watch out for Daylight Savings; the US time takes precedence in case of divergence) to discuss the following topics:

- Module 1: What civic tech is and what “public good” means
- Module 2: How algorithms make social decisions and where they fail
- Module 3: How to evaluate tools with data and evidence
- Module 4: Responsibly design

Starting Module 2, we'll sometimes be joined by invited speakers from the industry or public sector working on responsible and civic tech. I'd like to keep these discussions open and candid, so they'll be held under the Chatham House Rule: students can discuss what was said at the meetings with others outside the course, but cannot attribute any comments or ideas to a specific invited speaker or their organization.

The course concludes with student project presentations.

Course Requirements

Despite what perhaps is a very technical name, there's **no technical pre-requisites** for this course. You don't need programming knowledge or prior experience building digital tools of any kind, although these are very welcome. The only requirement is having interest in technology and zealously for questions of public good.

Readings

You should complete all required readings. Most of these are social science research articles and book chapters, not fiction, so you do not need to focus on individual words or phrases. Instead, focus on the argument, evidence, structure, and style. Recommended readings are optional and are here for you to dive deeper if interested. Use them to select papers for in-class presentations.

Workshopping and tools overview

In the latter part of several weekly meetings, we will use a workshop format to introduce hands-on civic tech tools and existing solutions, including open data repositories, mapping and visualization platforms, and storytelling and publishing tools. These sessions will be intentionally introductory and require either no or minimal coding experience. The goal is to help students understand what tools exist, what they are used for, and how to approach them in further work.

Grading

1. Final Project – 50%

Your final project may take one of the following forms:

- A written proposal of a civic tech project, including need justification, expected impact, outcome metrics;
- An empirical research plan focused on a topic covered in class;
- An evaluation plan, tied to a critical analysis of a tech tool in the public sector.

Projects may be completed individually or in groups of 2-4 students.

Midterm (20%): Submission of your project draft.

Final (30%): Submission of the completed project and in-class presentation.

2. Class Participation – 25%

Presence, thoughtful contributions to class discussions, and participation in interactive class activities are expected.

3. Brightspace Responses – 15%

Short assignments posted on Brightspace that guide your work on the final project.

4. In-Class Paper Walkthrough – 10%

Present and talk us through one of the papers assigned for that week's recommended reading (not required reading). Presentations may be done individually or in groups of 2, using slides or any other format you prefer. The goal is to clearly and accurately explain the paper's main argument, how the authors support it, and to reflect on any questions, critiques, or extensions you would like to raise.

Detailed Plan

Module 1: Ideas and goals behind civic tech. What is public good? How ideas get instantiated in tech design.

Week 1: Intro to civic and responsible technology.

Required content: Matt Stempeck, Sifry, M., Simpson, E. 2016. Towards a taxonomy of civic technology.

Homework: Browse the [Civic Tech Field Guide](#) repository of projects. Pick a project or two that speak to your interests for an interactive task during our first meeting.

Recommended content:

[Ezra Klein's interview with Jennifer Pahlka](#). "The Book I Wish Every Policymaker Would Read." The Ezra Klein Show, June 6, 2023.

Week 2: Civic tech and the public sector; state data collection: administrative, participatory, and secondary data.

Required reading:

Hsiao, Yu-Tang, Shu-Yang Lin, Audrey Tang, Darshana Narayanan, and Claudina Sarahe. "vTaiwan: An empirical study of open consultation process in Taiwan." Taiwan: Center for Open Science (2018).

Lessons from National Digital ID Systems for Privacy, Security, and Trust in the AI Age. CJ Larkin, Renée DiResta. Jun 25, 2025.

Recommended content:

Green, Ben. "The Innovative City: The Relationship between Technical and Nontechnical Change in City Government." *The Smart Enough City* (2019). 117-131, 137-142.

Week 3: Normative foundations and public interest. From normative frameworks to optimization. How public interest shapes design choices.

Required content:

Edmond Awad. MIT Media Lab's Moral Machine Experiment. URL:

<https://www.youtube.com/watch?v=ULfIEFGQUPg>

Stray, Jonathan, Ivan Vendrov, Jeremy Nixon, Steven Adler, and Dylan Hadfield-Menell. "What are you optimizing for? Aligning recommender systems with human values." arXiv preprint arXiv:2107.10939 (2021).

Recommended reading:

Bueno de Mesquita, Ethan. "Political economy for public policy." (2016). *Normative Frameworks*: 16-60.

Week 4: Principles of public interest tech design. Free and open-source software, peer-to-peer, interoperability. Data collection and privacy. Choosing tools according to your needs.

Required reading:

Yochai Benkler. *The Wealth of Networks*. (2006): 59-67.

Blankertz, Aline, and Svea Windwehr. "Interoperability and openness between different governance models: the dynamics of Mastodon/Threads and Wikipedia/Google." (2025).

Recommended reading:

Ostrom, Elinor, and Charlotte Hess. "Understanding knowledge as a commons." *From Theory to Practice*, Massachusetts (2007). 3-14.

Module 2: Algorithms as governing systems. Uses, limits, and structural failures.

Week 5: Algorithms and algorithmic decision-making.

Required reading:

[Kristian Lum & Rumman Chowdhury \(2021\), "What is an 'algorithm'? It depends whom you ask"](#) (MIT Technology Review)

[How Game Theory Helped Improve New York City's High School Application Process](#) (The New York Times)

Recommended content:

Christin, Angèle. "From daguerreotypes to algorithms: machines, expertise, and three forms of objectivity." *ACM SIGCAS computers and society* 46, no. 1 (2016): 27-32.

Gillespie, Tarleton. "The relevance of algorithms." *Media technologies: Essays on communication, materiality, and society* 167, no. 2014 (2014): 167.

[The Algorithm Register of the Dutch government.](#)

[Registers of government AI.](#)

The UK Office for Statistics Regulation. "Ensuring statistical models command public confidence Learning lessons from the approach to developing models for awarding grades in the UK in 2020".

Week 6: Tech fairness & bias. Algorithmic transparency in the public sector.

Required reading:

Barocas, Solon, Moritz Hardt, and Arvind Narayanan. *Fairness and machine learning: Limitations and opportunities*. Chapter 8: pages 205-209 and 213-217. MIT press, 2023.

Eileen Guo, Gabriel Geiger, Justin-Casimir Braun. "Inside Amsterdam's high-stakes experiment to create fair welfare AI." *MIT Technology Review* (2025).

Recommended reading:

Raviv, Shir. "When do citizens resist the use of AI algorithms in public policy? Theory and evidence." (2024).

Johnson, Nari, Sanika Moharana, Christina Harrington, Nazanin Andalibi, Hoda Heidari, and Motahhare Eslami. "The fall of an algorithm: Characterizing the dynamics toward abandonment." In *Proceedings of the 2024 ACM Conference on Fairness, Accountability, and Transparency*, pp. 337-358. 2024.

"Case Study 5: Hiring By Machine" *Princeton Dialogues on AI and Ethics*.

Week 7: Moving beyond observable bias. Midterm consultations.

Required reading:

Arvind Narayanan. "What if algorithmic fairness is a category error?" Working paper. (2025)

Recommended content:

Todd Feathers. "It Takes a Small Miracle to Learn Basic Facts About Government Algorithms". *The Markup*. (2023)

Selbst, Andrew D., Danah Boyd, Sorelle A. Friedler, Suresh Venkatasubramanian, and Janet Vertesi. "Fairness and abstraction in sociotechnical systems." In *Proceedings of the conference on fairness, accountability, and transparency*, pp. 59-68. 2019.

Module 3: How do we know civic tech works? Methods for evidence in tech and policy

Week 8: Week 8: What does it mean for a tool to "work"? Theory of change; impact evaluation; A/B testing.

Required reading:

Druckman, James N., Donald P. Greene, and James H. Kuklinski, eds. *Cambridge handbook of experimental political science*. Cambridge University Press, 2011. p. 15-22 (no need to read the appendix!).

How X's algorithm shifts political attitudes. Germain Gauthier, Roland Hodler, Philine Widmer, Ekaterina Zhuravskaya. 26 Feb 2026. CEPR.

Recommended reading:

A large-scale field experiment on participatory decision-making in China. Sherry Jueyu Wu, Ke Michael Mai, Ming Zhuang & Fangxin Yi. *Nature Human Behaviour*. (2024)

Grimmer, Justin. "We are all social scientists now: How big data, machine learning, and causal inference work together." *PS: Political Science & Politics* 48, no. 1 (2015): 80-83.

And other fun experimental designs for those interested:

Ventura, Tiago, Rajeshwari Majumdar, Jonathan Nagler, and Joshua A. Tucker. "Misinformation Beyond Traditional Feeds: Evidence from a WhatsApp Deactivation Experiment in Brazil." *The Journal of Politics* (2025).

Bond, Robert M., Christopher J. Fariss, Jason J. Jones, Adam DI Kramer, Cameron Marlow, Jaime E. Settle, and James H. Fowler. "A 61-million-person experiment in social influence and political mobilization." *Nature* 489, no. 7415 (2012): 295-298.

Week 9: Measuring impact continued. Intuitions behind quasi-experimental designs; data sources for digital research, reactive and non-reactive data.

Required reading:

Remler, Dahlia K., and Gregg G. Van Ryzin. *Research methods in practice: Strategies for description and causation*. Sage Publications, 2021. Page 427-435.

Yanagizawa-Drott, David. "Propaganda and conflict: Evidence from the Rwandan genocide." Coverage in *The Journalist's Resource* by Martin Maximino.

Thomas Fujiwara. *Political inclusion and development outcomes: Brazil introduces electronic voting*. VoxDev, 2017.

Recommended reading:

Enikolopov, Ruben, Alexey Makarin, and Maria Petrova. "Social media and protest participation: Evidence from Russia." Coverage in CEPR/VoxEU. (Original paper in *Econometrica* 88, no. 4. 2020)

Australia's world-first social media ban is a 'natural experiment' for scientists. Rachel Fieldhouse & Mohana Basu. 11 December 2025.

Week 10: Qualitative studies in civic tech and human-computer interaction. Tools for qualitative coding and text analysis at scale. Tools for visualization and story-telling.

Required reading:

Qualitative Research Practice Guide. The Code for America, 2020. Pages 23-33 & 38-44.

Knutas, Antti, Victoria Palacin, Giovanni Maccani, and Markus Helfert. "Software engineering in civic tech: a case study about code for Ireland." In *2019 IEEE/ACM 41st International Conference on Software Engineering: Software Engineering in Society*. IEEE, 2019. + Also take a look at their interview guide here: <https://zenodo.org/records/2565435> or on Brightspace.

Recommended reading:

Shilton, Katie. "Values levers: Building ethics into design." *Science, Technology, & Human Values* 38, no. 3 (2013).

Yousufi, Mohsin YK, Charlotte Alexander, and Nassim Parvin. "Credibility boosters as a lens for understanding epistemic injustice in civic tech: The case of heat seek." *Proceedings of the ACM on Human-Computer Interaction* 9, no. 7 (2025).

Week 11: Transparent & reproducible research of technology. Access to tech platforms data. Sharing your work publicly.

Required reading:

Diener, Edward, and Robert Biswas-Diener. *The replication crisis*. 2016.

Mark Scott, LK Seiling. *In Critical Condition – How To Stabilize Researcher Data Access?* 2025.

Recommended content:

p-hacking: How to Make Almost Any Study Look “Significant” (+ if you wish to expand, add some good practices from Munafò, Marcus R. et al. "A manifesto for reproducible science." *Nature human behaviour* 1, no. 1 (2017): 0021.)

Brown, Megan A., Andrew Gruen, Gabe Maldoff, Solomon Messing, Zeve Sanderson, and Michael Zimmer. "Web Scraping for Research: Legal, Ethical, Institutional, and Scientific Considerations." *arXiv*, (2024). Pages 1-22.

Module 4: Designing accountable, participatory, and democratic civic technologies.

Week 12: Understanding communities and their needs.

Required reading:

Landemore, Hélène, Lucy Bernholz, and Rob Reich. "Open democracy and digital technologies." *Digital technology and democratic theory* (2021): 77-89.

Habermas Machine by Michael Henry Tessler and Michiel A. Bakker, talk at The Burnes Center for Social Change. 2025. URL: <https://youtu.be/-cCguFRH7f4?t=174> up to the moment when the questions from the audience start coming in.

Recommended reading:

Revel, Manon, and Théophile Pénigaud. "AI-Facilitated Collective Judgements." (2025). Pages 13-27.

Farrell, Henry, and Hahrie Han. "AI and Democratic Publics" *Artificial Intelligence* (2025).

Week 13: Accountability, transparency, private companies and the state; final project consultations.

Required reading:

Schaake, Marietje. "The tech coup" (2025). Chapter 5: Tech on the Front Lines.

Recommended reading:

Teevan, Chloe, Raphael Pouyé, and Gautam Kamath. "From India Stack to EuroStack: Reconciling Approaches to Sovereign Digital Infrastructure." (2025). p. 3-28.

Epifanova, Alena, and Philipp Dietrich. "Russia's Quest for Digital Sovereignty." *DGAP Analysis 1* (2022). German Council on Foreign Relations. February 2022.

<https://doi.org/10.60823/DGAP-22-36557-en>

Week 14: Open generative AI; final project presentations and discussion

Required reading:

What is public AI? <https://www.youtube.com/watch?v=IDnTQoe8Kqo>. A webinar at Swiss National Supercomputing Centre (SCS). Up until the audience questions (~37 minutes).

And feel free to try it out yourselves, especially with some reasonably complex tasks, and note any observations that come up, e.g. in comparison to other models you might have experience with:

<https://chat.publicai.co/>

Recommended content:

Oriane Peter. Will Swiss AI Save Swiss Democracy? (2025)

Week 15: Final project presentations and discussion

Policies

Late submission policy

Late assignments will drop one letter grade per 24 hours. If you have an emergency or need more time for a good faith reason, please reach out to me.

Attendance

Each student may miss one class over the course of the semester without a negative impact on their final grade. If lateness becomes a chronic problem, it will begin to count toward absences. For special circumstances, please email me.

Academic integrity

Cases of plagiarism result in an automatic failure on the assignment.

Disabilities

Please let me know within the first two weeks if you need any accommodations.

Responsible AI use

If you put your name on an assignment, you are responsible for its accuracy and integrity. You may use generative AI, but you must do so creatively, critically, and responsibly. For example, if you cite references that do not exist or can't walk us through your work during the discussion, you may receive a zero on that assignment.

If you do use AI to help you reflect, open the Study and Learn mode if in ChatGPT, or an analogous Socratic dialogue-like prompt in any other tool you use. Using AI for proofreading your texts is also fine but do try to keep your own voice.

Caveat

If I need to make any changes to this syllabus, including due dates, I will announce them as early as possible so students can adjust their schedules.