TEACHING STATEMENT

J. NATHAN MATIAS

Through my teaching, I create environments where students can develop (a) a grounding in core methods and theories, (b) abilities to connect material across disciplines in diverse teams, (c) experience evaluating ideas for their methodological, ethical, and societal implications, and (d) the confidence to create something new that bridges between theoretical and pragmatic value.

Rigorous, cross-disciplinary learning spaces need careful scaffolding, facilitation, and mutual trust. I aim to create environments that support each student's growth wherever they are as a learner—something I practice by structuring a baseline of one-on-one time with students. I structure class times and team projects to create an environment of respect and collaboration. I create assignments that allow students to work from their passions while permitting me to sustainably direct growth-oriented feedback to students. I also integrate feedback structures, evaluation, and other opportunities for continuous improvement into my classroom practice.

I have been developing creative approaches to learning as long as I can remember. As a home-schooled student, I co-developed my own education with my parents in consultation with a state-appointed education researcher. As an undergraduate, I was an unofficial TA in computer science classes and learned to facilitate inclusive seminars as a literature student. At Cambridge University, I lectured in the English department. At the MIT Media Lab, I crafted hands-on courses that mixed gradstudents and undergrads from design, education, business, computer science, and the social sciences. At Princeton, I have used this experience to pilot a new class across social science and computer science.

Educators in many fields are still learning how to build rigorous multi-disciplinary courses on technology and society. To contribute to this conversation, I create open educational resources in all classes I teach, including statistical software, assignment plans, lecture notes, and public reflections on what I learned from teaching from those units [2, 3, 4, 5, 6].

As societies come to terms with the implications of becoming digitally-connected, we need capable researchers, managers, and engineers who can make sense of these issues with their firms, policymakers, other scholars, and the public. Students who can bridge between theory and practice will have a competitive advantage in their careers and will be well equipped for deeply-needed public service.

TEACHING EXPERIENCE

I have led a diverse range of educational experiences across the social sciences, engineering, business, policy, and the humanities.

At MIT, I co-taught *Unpacking Impact*, a seminar class for master's students and advanced undergraduates from the Media Lab, the Harvard Grad School of Education, and Sloan School of Business to integrate research and ethics into pragmatic projects [7]. Through a series of group discussions, readings, and writing assignments, students learned to critique and evaluate the social impact of projects they were undertaking elsewhere in their educational careers. In the first half, students gained social and political lenses for questioning the impact of their design work. In the second half, students learned to develop consider approaches to the ethics of their projects, business plans, and research.

In Princeton's Sociology department, I am piloting *Designing Field Experiments at Scale*, a cross-disciplinary undergraduate/graduate lecture class I piloted as a seminar in 2018 on the craft, ethics, and politics of field experimentation [1]. Students learn basics of rapid, large-scale experiment design

for product testing, policy evaluation, and open scientific research. Throughout the class, students read, discuss, and write about debates on the ethics and politics of behavioral experimentation. Students also work in teams to develop a publishable field experiment together with people affected by their research. By the end of the class, students submit high quality study designs alongside a final paper that makes an argument about the ethical or societal implications of the study they co-designed.

I am energized by opportunities to mentor and advise graduate research and undergraduate senior projects. At MIT and Princeton, I have advised numerous senior theses and undergraduate projects in computer science and the social sciences. Many of my advisees have gone on to co-author peer-reviewed research and advance into careers in data science, journalism, and PhD programs.

When I convene and facilitate multi-disciplinary seminars, I get to enjoy the creative exchange of ideas and values that I loved during my two humanities degrees. At MIT, Harvard, and Princeton, I have continued this practice, co-leading the Harvard/MIT/Yale/Columbia Cyber-scholars working group, the Harvard Cooperation Working Group, and the Princeton Technology and Society seminar.

TEACHING INTERESTS

I am a team player and am open to teaching a broad range of courses according to the needs of your learning community. I am especially qualified to teach undergraduate and graduate courses at the intersections of social science, computer science, and ethics. I relish courses that advance students' methodological capacities alongside reflection on the social implications. Sample classes include:

- *Designing Field Experiments at Scale.* Advanced undergraduate or graduate course on the craft, ethics, and politics of large-scale, replicated behavioral research. Teams of students develop their own field experiment and write about key issues in research ethics related to their projects.
- *Designing Civic Media.* Undergraduate or graduate course on designing communications technologies for civic life. Students will learn to connect theory from the social sciences with engineering and design on novel social technology and media systems.
- *Social Movements, Activism, & Social Change.* Globally-focused undergraduate seminar on theoretical and pragmatic questions in social movements. Students learn social science literature and develop empirical research on the nature, structure, and influence of social movements.

UNSOLICITED COMMENTS FROM STUDENTS

"Instructions were always very clear. Grading guidelines were also very clear and Nathan's feedback was always super helpful!"

"Nathan was very understanding of newcomers' initial struggles with some basic stats concepts. He reviewed all assignments very in–depth, leaving individualized comments on most assignments."

"The instructor stepped through the written work with us to help us understand the course material, but he also enabled us to think about such material independently. He was always available by email to answer any questions that we had."

"I appreciate the feedback you gave throughout the course, and I also value the conversations we had outside of class. As somebody that's still trying to find myself as a researcher, it was very helpful to get your perspective."

References

[1] Teaching the Craft, Ethics, and Politics of Field Experiments, July 2018. URL https://freedom-to-tinker.com/2018/07/03/teaching-the-craft-ethics-and-politics-of-field-experiments/.

[2] J. Nathan Matias. How Anyone Can Audit Facebook's NewsFeed, December 2017. URL https://medium.com/@natematias/how-anyone-can-audit-facebooks-newsfeed-b879c3e29015.

[3] J. Nathan Matias. Attributing Cause in Algorithm Audits, January 2018. URL https://medium.com/@natematias/attributing-cause-in-algorithm-audits-5fd744443eb2.

[4] J. Nathan Matias. Is It Just Me? Pooling Experiments to Audit Common Impacts of Social Tech, May 2018. URL https://medium.com/@natematias/is-it-just-me-pooling-experiments-to-audit-common-impacts-of-social-tech-ca9fdb78516.

[5] J. Nathan Matias. SOC412: SOC 412: Designing Field Experiments at Scale. Public repository for assignments and example code, July 2018. URL https://github.com/natematias/SOC412. original-date: 2018-02-05T00:21:49Z.

[6] J. Nathan Matias. Teaching large-scale digital experimentation to undergraduates and graduate students, September 2018. URL https://osf.io/sfxbw/.

[7] J. Nathan Matias Ricarose Roque, Sayamindu Dasgupta. Unpacking Impact: Reflecting as We Make, February 2016. URL https://medium.com/mit-media-lab/unpacking-impact-reflecting-as-we-make-a4808a1848fc.