Teaching Statement

Adam Bouyamourn

I have a broad range of teaching experiences across seven semesters of teaching at UC Berkeley. I have taught graduate methods classes twice (a first graduate class in statistical methods, and a first graduate class in game theory), non-technical undergraduate classes (an introductory class and an elective in American politics), and an introductory data science class. I am currently teaching a class on 'engineering leadership' – essentially a writing class for Masters of Engineering students.

I anticipate teaching introductory applied data science classes to undergraduates, and, to graduate students: classes in a graduate methods sequence; 'paper-reading' classes, in which we read good applied papers, study how the methods are actually used, and learn from them; and one-off topics classes, where I am interested in a particular sub-area of literature that I believe is a profitable direction for new research, and invite graduate students to collaboratively learn with me, with the goal of conducting new research together. These classes would be intended to vary in terms of their 'distance from the research frontier'.

I have experience of teaching data science to undergrads from acting as GSI (TA) for David Broockman's Introduction to Empirical Methods for Political Science, an undergraduate class. This introduced me to the concept of a flipped classroom, a methodology I would like to use in my own teaching, and which was both well-received by students and appeared to be an excellent utilization of their time. Lectures were prerecorded, and students were expected to have watched them before attending class. In the assigned class time, students worked through exercises that applied the content in lectures. This was a clever way to teach methods at scale that did not involve a lot of 'being talked at' by a professor. The class also effectively combined introductory coding with an introduction to causal inference. I would aim to teach applied data science classes to undergrads in Python. The aim would then be that such an applied data science class could be a gentle introduction to statistical thinking and methods, with the goal of encouraging students to take more advanced offerings in other departments.

The most useful class I took in graduate school (for applied researchers) was a 'paper-reading' class: Fred Finan's Econ 215B, in which we closely read one very good political economy paper each week, with an eye on what the authors actually did and how they actually did it. An innovation in this class was to study and critique econ job market papers in detail, which represented a realistically attainable upper bound on the quality of work of PhD students in political science could be expected to produce.

Teaching technical subjects to students with a wide range of backgrounds comes with a variety of distinct challenges. As a methodologist in an applied field, I am cognizant of the fact that students are likely to be applied researchers and undergraduates, not Statistics PhDs. I have several strategies in mind for approaching this.

First, **focusing on the basics**. Introduction to Statistics is, in my opinion, the most difficult class in statistics. Giving students a solid grasp of the foundations is probably a statistics teacher's hardest task. Statistics, especially at the introductory level, invokes a large universe of novel and unintuitive concepts. Null hypothesis statistical testing is famously unintuitive; wrapping your head around estimand and estimator; inference and estimator, and even what is probability and what is statistics, is challenging at first.

Second, **developing intuition across multiple modalities**: verbal, symbolic, geometric, numerical, computational. Mathematical concepts should be introduced by appealing to as many of these aspects as possible. If students struggle with one type of intuition, a useful strategy is to pivot to a second one. Simulation and computation are particularly useful in this respect: it can be helpful to motivate problems or the behavior of procedure with computational examples or algorithms.

Third, **preparation and accuracy**. There is no alternative to being exceptionally well-prepared for teaching. And it is very important to be precise, even, and perhaps especially, in introductory classes.

Being vague does not improve a student's understanding; it just makes it more likely that they will assert that they understand.

Fourth, **learning by doing**. The best professors I have had show what it is like to *think* in a given subject. They invest *significant* amounts of effort in the problem sets. Good problem sets *tell a story*: they lead students through a thought process, or an insight, or a mistake that the professor made as a grad student. And, as good stories, they have a *moral*: by completing an exercise, you show for yourself an argument you had not been exposed to before, and understand the rightness of it; or learn how to *do* something you couldn't do before. In graduate classes, I will ask students to reproduce articles, either substantive or technical.

Fifth, **fostering curiosity**. Not everyone in a math class will be inherently very excited by the material. There is a 'pain point' before which math can feel alien and unpleasant, and it can require a degree of distress tolerance to get past this point. I want to stress to students both that math can be unpleasant at first, but that it can be exceptionally rewarding, and fundamentally change how a person thinks and sees the world.

I am particularly attentive to gender bias in math classes. It is well documented that women have higher levels of math anxiety, are more likely to believe that they are "bad at math", and are more likely to have had discouraging experiences from teachers imposing gendered expectations on them. I aim to be as explicit as possible that everyone in the class can do well. I play close attention to how frequently I call on male-identifying versus female-identifying students, and make sure to present warmly and encouragingly to all students. I make a very deliberate effort to respond to every student in the same ways, to the extent that I can. This applies to body language, eye contact, and tone of voice, as well as my choice of words.

It is important to me that everyone in the classroom feels respected, and that their time is being used well. Teaching is fundamentally about relating to others: kindness and consideration are ineliminable requirements of the job.

Excerpts from Course Evaluations

> "Adam is very passionate about the topic which positively contributes to class engagement."
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> "Adam explains concepts clearly and gave good feedback on writing better papers."
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> "Adam was a great GSI, he was very helpful and accommodating. He was organized and when students would ask questions he was able to provide insight and details of the subject which allowed the processes of reading and writing more effective."
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> "Adam wholeheartedly welcomed questions and comments (and there were never any "dumb questions"). In other words, I felt comfortable asking anything about the course materials."
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> "Adam provided great feedback for the class following the midterm and set out expectations of what would make quality papers."
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> "The GSI was clear when explaining concepts and took what we learn in class a step further and asked us questions where we had to make sense of code and apply concepts taught in class."
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> "Adam's section was always especially helpful because of how dedicated he was to clearly and thoroughly answering our questions. He always made sure to review / discuss not only the readings but also any aspects of the lectures he wanted to emphasize, expand on, or review. He also made sure to always answer our questions regarding his expectations for each assignment. I always appreciated all of this."

"Adam was very engaging in class and even brought in special worksheets for us to do for fun to help us understand the material further."

"Adam was nice and there was an open platform for discussion. I also visited Adam during office hours and it really helped my development of the research paper!"

Classes Taught

Graduate Student Instructor, UC Berkeley	
Communications for Engineering Leaders	Fall 2024
The Politics of Displacement	Spring 2024
Formal Models in Political Science (graduate)	Spring 2023
Quantitative Methods in Political Science (undergraduate)	Spring 2022
Quantitative Methods in Political Science (graduate)	Spring 2021
Introduction to American Politics	Fall 2019, Spring 2020
Teaching Assistant, ICPSR	
Race, Ethnicity and Quantitative Methodology	Summer 2018
Recitation Instructor, Georgetown University	
Introduction to R	Spring 2018