

I believe that one of the most important ways I can make an impact is on the students I train, who will go onto careers in scientific research, the private sector, and public policy. In addition, teaching helps me sharpen my thinking about economic theory, econometric techniques, and public policy and thus improves my research. As Richard Feynman famously wrote “the questions of the students are often the source of new research” (Feynman, 1986). Below, I describe my contributions to teaching both inside and outside of the classroom.

### **Contributions to Teaching In-Class**

What were your primary goals in teaching, and why were those goals important to you?

Four goals guide my teaching. First, I want students to come away with new conceptual tools to understand the world. The best courses not only teach students methods or facts, they equip them with new ways of understanding the world around them. These models and concepts will allow the students to analyze the novel problems that they will confront in their academic and professional lives. Second, I want students to learn key facts and evidence related to the topics discussed in the course. This background knowledge serves as important context for the students in thinking about the world. Third, I want students to gain practical skills that will benefit them in their future lives. Fourth, and perhaps most importantly, I try to inspire students so that they develop a life-long interest in the topics and materials covered during the class. A sense of wonder and joy about learning the material within the course will encourage them to continue building their skills outside the course and develop expertise on the covered topics.

What methods have you used to accomplish your teaching goals, and why?

I structure my courses around four broad principles in order to accomplish these goals discussed above. First, I create an interactive classroom where students are actively engaged in the material. I achieve this by incorporating small-group activities, having structured class discussions, by breaking the lecture for think-pair-share time periods, and by cold-calling on students to discuss some aspect of the lecture or to propose a problem solution on the board. To create this type of interactive classroom, it's very important to know your students, so I require students to have nametags and work hard learn about student's interests, strengths and weaknesses, and goals during the semester. This interactive classroom helps my course to be reflective and evolving, as it provides me with frequent feedback on what students are excited about, what material students find difficult, and what aspects of my teaching are proving effective versus ineffective.

Second, I use learning-by-doing to help the students master the concepts and techniques. For example, I ask students to solve new variants of the models taught in class, to apply models in new settings, to implement techniques themselves, or to develop novel research ideas. I try to maximize this learning-by-doing by assigning students a mixture of problem sets, responses to the readings, short descriptions of research ideas, quizzes, and exams. To facilitate this practice, most semesters I hold optional sessions in the evening where we work through practice examples or review already discussed material to provide students with additional opportunities to get practice in the concepts or techniques they're learning in class. In my Master's and Ph.D. courses, there is also a capstone experience in which students combine the learning and feedback to generate a larger research project that they might be able to continue after the course. Carefully designing these learning by doing experiences is a key part of making sure my courses are well designed.

Third, the evidence suggests that frequent feedback is important for accelerating the learning process. The best way to fill the gaps in your knowledge of a topic is to see what you do not yet understand. Consequently, I divide the learning-by-doing activities discussed above into a larger number of smaller assignments, quizzes, exams, and projects. As a result, my students receive

feedback on their progress 15-25 times before the final exam. This frequent feedback allows students to see how they're doing on particular learning objectives, which is a key part of creating a well delivered course. Using a variety of types of assignments and assessments helps make my courses inclusive and ethical, by allowing students opportunities to demonstrate their mastery of the material in different ways.

Fourth, I experiment with different instructional techniques frequently and revise my course in response to student feedback. For example, in Fall 2020 in response to the COVID pandemic I flipped my MSPE ECON 523 course and recorded video lectures and then did activities during class. I've also experimented with a wide variety of types of assignments. This experimentation with different instructional approaches is a key part of making sure my course is reflecting and evolving in response to student experiences, feedback, and new pedagogical methods and technologies.

#### What challenges have you faced in your teaching, and how did you work to overcome those challenges? What have been your areas of most improvement?

First, when I first started teaching I covered material too quickly and assumed too much prior knowledge. This was a particular problem the first time I taught my course on the economics of decision-making, where I assumed too much econometric and coding knowledge and went very quickly, leading to low course evaluations. I've improved this aspect of my courses significantly by increasing the time I spend on each topic and by providing more background knowledge and resources for students. Students now find my courses to be well-paced.

Second, when I first began teaching at UIUC my courses typically had fewer assignments that were quite long. I received the feedback that students preferred a larger number of shorter assignments. This larger number of shorter assignments makes it easier for students to pace themselves and provides more frequent feedback.

#### What have been your areas of greatest success in teaching?

First, my efforts to involve students actively in lectures and the learning process by creating an interactive classroom with activities, student presentations, and classroom discussion have been a great success. I routinely get feedback that my classes are among the more engaging classes that students have experienced. Even aspects of class that some students are skeptical of at first – such as the active class discussions and cold calling – students come to appreciate and enjoy.

Second, my capstone project for master's students has become a central part of the course that many students tell me has been one of the most valuable educational experiences they have had. This capstone project allows students to conduct a study on the causal effect of a particular treatment from start to finish, including question generation, study design, data analysis, and interpretation. Students design a study of the causal effect of some treatment and then I create simulated data for their project, and have them analyze the simulated data and produce a summary of the results. I then provide the code I used to simulate the data they were given, allowing them to conduct monte- carlo analysis to understand the bias and variance of their estimation approach and how their approach would have worked better or worse under different data generating processes. Students present during the semester on their research idea and analysis, providing experience in conveying their ideas and findings to others as well.

Third, I have received positive feedback from my students, generally receiving ratings of average or above, and being named to the UIUC list of teachers "Ranked as Excellent by their Students" in five of the nine semesters that I've been eligible (Fall 2017, Fall 2018, Fall 2020, Fall 2022, Fall 2023). I was also given an award for "Excellence in Teaching a Field PhD Course" in the 2022-23 school year by the Economics Graduate Student Organization (EGSO). I routinely receive feedback from my students that my courses are among the most impactful classes they have taken.

What are your goals for future teaching? Where do you see your greatest potential for improvement?

First, I would like to provide students with more frequent and personalized feedback. The most basic part of this is to return graded assignments even more quickly than I have in the past. However, beyond this I'm excited by the promise of using LLMs to build tools to significantly accelerate and enhance my ability to give students frequent feedback on their work and learning. Second, I would like to incorporate even more student activities. For example, student presentations on research ideas and data analysis have proven to be a valuable exercise in my master's class that students enjoy and learn a lot from. I would like to incorporate such activities more in my undergraduate and PhD courses. Third, I would like to collaborate with my fellow faculty to design new PhD courses at the intersection of multiple fields, such as labor economics and macroeconomics or urban economics and trade.

**Contributions to Teaching Outside of Class**

**(I) Advising PhD Students**

I have served on 34 dissertation committees (including three students who will be defending their dissertations in the coming academic year). I have been an extremely active advisor for almost all these students, meeting with them many times each semester for several years. My advisees include some of our best students, with their placements including tenure track positions at Columbia and William and Mary. I have also been the third-year paper advisor for four students and written referee reports on third-year papers for five students. Finally, I have also provided informal advising to many students for whom I did not serve on their dissertation committees.

Outside of direct advising roles, I've been involved in several other efforts to help PhD students get the most out of their time at UIUC. I encouraged PhD students to start the Economics Graduate Student Organization (EGSO) and served as the faculty co-advisor during the 2020-2021 academic year when the organization was getting started. I also have co-coordinated the Applied-Micro Research Lunch since Spring 2025, which provides graduate students with opportunities to get feedback from faculty on their ongoing research. In the wake of COVID, I was concerned that many PhD students were struggling to make progress on their research. To help address this, I formed the Labor Economics Research Group that met weekly in Spring 2022 through Spring 2023 and gave students an opportunity to discuss their research ideas. Finally, I provide annual presentations to applied micro students and job market candidates in all fields on presenting skills.

**(II) Advising Undergraduate and Masters Students**

I've also done extensive advising of our MSPE and undergraduate students. I've written letters of recommendation for jobs and graduate school for 36 total MSPE and undergraduate students. I particularly enjoy helping these students figure out how to proceed with the first steps of their career. I've also given research talks to undergraduate and MSPE students. In November 2020 I gave a talk titled "Facts on the US Labor Market" and in February 2025 I gave a talk targeted to undergraduate students giving an overview of my research.

**(III) Providing Research Opportunities for Students**

Research opportunities are a key way that students can build skills. I've provided extensive research opportunities to students, including hiring 6 ATLAS program interns, 19 paid undergraduate RAs, hired 2 paid masters student RAs, and 7 paid PhD student RAs. I work hard to make sure these experiences build student's skills and advance their careers.

## **Course Descriptions**

### **PhD Labor Economics I (Econ 590)**

This course provides graduate students an introduction into the theoretical frameworks and empirical tools labor economists use to understand labor markets. I cover labor demand and supply, frictions, search and matching, sorting and compensating differentials, skill formation, market power and bargaining, discrimination, and technological change. I've taught this course in Fall 2018, Fall 2020, and Fall 2022.

### **Master's (MSPE) Applied Econometrics (Econ 523) Advanced Topics in Program Evaluation and Policy Analysis**

This course covers modern econometric techniques for estimating causal effects including experiments, regression and matching, instrumental variables, difference-in-differences, synthetic control, and regression-discontinuity designs. I discuss the properties of each of these techniques and illustrate them using real world examples. I've taught this course in Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2023, and Fall 2025.

### **Undergraduate Applied Econometrics (Econ 491): Decisionmaking**

This course combines decision-theory, econometrics, and policy analysis to help students think about how theory and data can be used to inform decisions in different circumstances. Economists combine data with assumptions to inform decisions by governments, firms, or individuals. The strength and credibility of these conclusions depend on the data, maintained assumptions, and analysis approach. I illustrate the concepts and methods in the course with real world examples taken from economic policy, business settings, sports and games, and politics. I've taught this course in Spring 2019, Fall 2023, Spring 2025, and Fall 2025.

### **Undergraduate Applied Econometrics Course (ECON 490): Topics in Program Evaluation and Policy Analysis**

In Fall 2017, because the typical instructor was on leave, I taught a causal inference class for undergraduates. I covered similar topics to my master's course but did not include the research project and simplified some of the more technical material.

## **Course Evaluations**

I have received very positive evaluations from my students, including being named to the UIUC list of teachers "Ranked as Excellent by their Students" in five of the nine semesters that I've been eligible (Fall 2017, Fall 2018, Fall 2020, Fall 2022, Fall 2023). I was given an award for "Excellence in Teaching a Field PhD Course" in the 2022-23 school year by the Economics Graduate Student Organization (EGSO). I routinely receive feedback from my students that my courses are among the most impactful and useful classes they have taken.