

Teaching Statement

As an educator, my goal is to equip my students with the knowledge and skills they need to perceive and explore the world rationally and critically, particularly in today's information-rich environment. To achieve this, I strive to help my students not just acquire knowledge and learn concepts to answer exam questions correctly but apply those concepts and skills in their individual lives and the world around them. Ultimately, I hope my students can develop a holistic understanding of the world, and become active, informed citizens who are equipped to make a positive impact in their communities and beyond.

Over the course of my four years of teaching experience, I have been working hard to create an effective and inclusive learning environment that meets the needs of students from diverse backgrounds. This effort is reflected in the steadily increasing scores on my teaching evaluations for the five undergraduate and graduate courses that I have taught, as shown in Table 1.

Table 1. Summary of Teaching Experience and Effectiveness.

Course name	Level	Role*	Offering year(s)	#Students (avg.)	Evaluation(s) (/5)**
<i>Managerial Economics</i>	UG	TA	2018, once	43	3.9
<i>Intermediate Microeconomics</i>	UG	TA	2018, once	60	NA
<i>Financial Management of Firm</i>	UG	TA	2019, twice	45	4.1 → 4.5
<i>Time Series Econometrics</i>	Ph.D.	TA	2019, 2021	13	4.6 → 4.9
<i>Econometric Theory and Applications</i>	UG	TA	2022, twice	48	4.0 → 4.4
	UG	AI	2022, once	35	4.8***

Note: *TA and AI represent the positions of “teaching assistant” and “associate instructor”, respectively. **The evaluation scores reflect students' average assessments of my overall teaching effectiveness in each course. ***A detailed summary, including student comments, of the evaluations for this course, for which I was the instructor of record, is available [here](#).

In the following, I highlight the teaching and pedagogical strategies that I employed in my most recent teaching experience, specifically in the course *Econometric Theory and Applications* that I taught as an associate instructor in 2022. These strategies were highly effective in engaging students and facilitating their learning. I believe that they are representative of the teaching approach that I bring as an instructor who is committed to promoting student success.

The course and students

Econometric Theory and Applications is an upper-division undergraduate course that is required for students in the Managerial Economics major. While they all met the prerequisites in economic theory and statistics, the students in my class represented a diverse group with varying backgrounds and prior learning experiences. More than one-third of them transferred from community colleges; others were returning students, part-time workers, or parents. The differences in prior training, time availability, and, in general, life experiences created significant heterogeneity in students' comfort level with math and statistics and the more theoretical component of the course. As I outline below, I feel it was critical to both understand and embrace this diversity in designing the course.

Students enrolled in this course are also required to use the statistical software R to conduct regression analyses as part of homework assignments. This requirement is intended to help students build application skills that are transferrable in both academia and industry. From my previous experiences as a TA in this course, I had learned that students often struggle with R. Thus, to plan and better understand students' needs, I conducted a background survey at the beginning of the instruction session. It showed that over 60% of

students had never used R before, and 20% of students had never heard of R. The survey helped me get a head start and better prepared me to help my students.

Teaching methods and their effectiveness

Flexible Assessment: Students may underperform on some assignments or exams due to unpredictable health or mental conditions. During the six weeks of my summer course, over a quarter of students missed class due to Covid infections or other health issues. Consequently, I adopted a flexible approach to assessing their performances. The assessment was threefold: (1) real-time lecture quizzes, (2) weekly homework assignments, and (3) one midterm and one final exam. I permitted students to discard the lowest one-third of their scores for part (1) and one-fourth of the scores for part (2). I also allowed students to replace a lower midterm score with a higher final exam score. As anticipated, most students who underperformed in the midterm improved in the final. This flexible assessment approach is beneficial not only during a pandemic but also at all times, as it provides students with multiple opportunities to demonstrate their understanding of the course material.

Multilayered Assistance: As I mentioned earlier, learning to use a new software package such as R, while also absorbing the theoretical material of the course, was a significant challenge for many students, especially those who had no prior programming experience. To facilitate their learning, I first provided step-by-step guidance on installing the software and setting up the user interface using a short YouTube video. Then, in each lecture I introduced a few basic R commands through simple, concrete examples. Once students were familiar with these new commands, the TA offered a more detailed application of these R commands and provided interactive coaching during each discussion session. I also illustrated the application of these new R commands with one question from each homework assignment. In addition, I encouraged those who needed additional help to attend my office hours for further clarity on the syntax of R commands and their applications. This multilayered assistance made most students comfortable with the tool. Students performed well on exams, which tested their ability to use R commands and interpret associated outputs to answer application questions. Also, the end-of-course survey responses indicated that students felt confident using R for basic statistical analysis, such as linear regressions. Generally, I believe that this type of multilayered assistance is critical for helping students build their application skills.

Daily-life Examples. It is common to hear students say that “I’m not good at Math” or “I’m not good at Statistics.” These anxious sentiments then contribute to the perception that courses like *Econometric Theory and Applications* will be challenging. To overcome this inherent bias among students and to make my class fun and relevant for them, I constantly used daily-life examples to illustrate “difficult” topics. The concept of hypothesis testing, for example, is often considered very abstract by students. To illustrate this statistical concept, I presented students with a scenario: they were to assess if an unknown individual was a good driver (the null hypothesis), given a one-month driving history. This history showed that the driver had been in one accident during that month. Nearly all students immediately inferred that the driver was unlikely to be good, thereby rejecting the null hypothesis. By connecting course content to daily-life examples, I believe that students will be more invested in their learning and be more motivated to apply what they have learned in their individual lives and communities.

Awareness of Social Issues: In a data-analysis course like *Econometric Theory and Applications*, instructors usually introduce students to a range of variable types, such as continuous versus categorical variables. I find it is highly effective to get students to actively engage with the material by tying abstract

data concepts to concurrent social issues. For instance, I introduced students to the use of dummy variables in regression analysis by analyzing gender-based income gaps. Not only did students express genuine curiosity and engagement in the topic of gender inequality, but they also experienced an “A-ha” moment upon understanding how the gender categories “female” and “male” are replaced with numeric values of 1 and 0, respectively. It's easy for us to take the meaning of a dummy variable for granted; however, it can be challenging for students learning about the concept for the first time. Grounding these new and abstract concepts in relevant real-life examples is crucial for motivating and accelerating the learning process.

Since the students were so interested in this topic, I took it a step further by asking them to explore alternative explanations underlying the observed gender inequality in income. By thinking through these reasons in a specific context, they were able to understand the concept of variable interactions, e.g., the gender dummy variable interacted with years of education. Attracting students with social issues relevant to their own lives and showing them how statistical tools can empower them to explore such issues spurred students to be more active and engaged in their learning. This type of engaged teaching strategy is not limited to quantitative courses such as econometrics; it is relevant to all courses in economics.

The conclusion and look forward

Overall, I appreciated the effort and enthusiasm that my students and TA put into this class. Thanks to our close cooperation, we successfully built an effective and inclusive learning community. For reference, you may see students' comments on this course using the link under Table 1. It was very gratifying to keep in touch with students after the course ended as they sought my advice and assistance for their graduate program applications. I wrote letters of recommendation for several students who applied for graduate programs in economics or related fields, and I look forward to following them as they continue their academic careers.

I look forward to teaching econometric courses like *Econometric Theory and Applications* and related quantitative methods courses such as time series econometrics and program evaluation. Given my teaching experience and educational background, I could easily step in to teach intermediate microeconomics and a range of courses in undergraduate finance. I would also be excited to teach existing or develop new courses in applied economics areas, especially those in agricultural, environmental, and development economics.