Teaching Statement

The discipline of economics is grounded in the scientific method: building intuition from the world around us, structuring that intuition with mathematical models, and testing those models using data. My goal as an instructor is to develop in students the ability and the enthusiasm to use the framework of economics to understand the world.

My fields of specialization are macroeconomics, monetary economics and time-series econometrics. However, during my time as a graduate student, I have had the opportunity to be involved with teaching *Introduction to Microeconomics* and *Introduction to Macroeconomics* at the undergraduate level, and applied courses such as *Urban Economics* and *Energy Economics* at the graduate level. Most recently, I have been involved with teaching the Data Science sequence for Masters' students which include the courses *Python, Databases and Big Data* as well as *Data Mining and Statistical Learning.*

My approach to teaching undergraduates places a strong emphasis on building intuition from first principles, creating a bridge of ideas from the simple foundations of individual behavior and building towards complex economic phenomena such as general equilibrium. I believe the primary goal of undergraduate education is to introduce students with analytical rigor - teaching them to discipline their intuition with formal logic and stress-test it against empirical data. To this end, I develop in-class activities and programming exercises that complement the lecture material. For example, in the *Introduction to Macroeconomics* class, I had the students simulate a market with some acting as buyers, some as sellers so they could understand how aggregate demand and supply curves arise from fundamental interactions and incentives, and how prices are determined by market clearing. These activities reframe the classroom as an environment where we are free to experiment with ideas and collaboratively engage in the process of discovery. I like to ground economics education in the historical and cultural context that has shaped mainstream economic thought, like for example, how Keynesian ideas were shaped by the experience of the Great Depression and how the New Keynesian ideas emerged from the experience of stagflation of the 1970s and 1980s. This highlights to the students that economics, much like any other science, is a human endeavour. And that the landscape of knowledge is continuously evolving.

For smaller classrooms, I have relied on pedagogical approaches like flipped classrooms to use in-class contact hours for active discussion and collaboration. I put this into practice while teaching the Master's-level sequence: *Python, Databases and Big Data* and *Data Mining and Statistical Learning*. These courses are designed to equip students with computational tools to answer empirical questions in economics, drawing upon modern approaches from machine learning and big data analytics. The objective of this course sequence is to train students in the entire pipeline of data analytics: from data acquisition, using economic reasoning to clean the datasets, identifying features useful for prediction and causal inference tasks, model tuning and diagnostics and all the way

up to data visualization and presentation to produce relevant insights. Since this was often the students' first exposure to programming, I implemented a scaffolded learning structure. I designed review session modules that decomposed complex empirical research pipelines into manageable steps, building cumulatively toward a final research project where the students combine the theory and methods to tackle an econometric problem. The efficacy of this approach was evidenced by the high quality of student capstone projects, many of which incorporated advanced techniques applying machine learning and natural language processing to answer economic questions. Many of the students have gone on to build careers in the Tech and Finance industry as well as to pursue research in Economics and Finance.

My pedagogical values have also been shaped by my experience in applied courses like *Energy Economics* and *Urban Economics*. These classes presented a unique pedagogical challenge due to the heterogeneity of the student body, which included not only economists but also students from law and public policy backgrounds. Based on my experience, to accommodate this diversity in preparation and learning styles, I would employ a multimodal assessment strategy in courses, utilizing a balanced portfolio of evaluations: timed exams to test technical fluency, assignments to ensure consistent engagement, and course projects that allow students to showcase creativity and research skills. Particularly in cases where students come from different backgrounds, it's important to allow for a degree of substitutability across modes of assessment. This flexibility ensures that a student can offset performance deficiencies in one mode, like timed exams, with their proficiency in tasks that reward persistent effort and creativity, like research projects. This also mitigates a lot of anxiety surrounding assessments and exams, putting the focus back on learning.

Teaching interests: My teaching interests are closely linked to my research. At the undergraduate level, I am prepared to teach the full suite of Macroeconomics and Econometrics courses. At the graduate level, I am equipped to teach Intermediate Macroeconomics and the PhD Macroeconomics sequence along with Time-Series Analysis, and Monetary Economics. Furthermore, I am eager to develop new offerings in *Applied Data Science for Economists* and *The Economics of Information*, bridging economics education with advances in machine learning.

Ultimately, my goal is to make the process of learning engaging and grounded in the real world. I want my students to carry with them both the confidence and the curiosity to use economics as a lens to better understand society and to make more informed decisions as researchers, professionals, and citizens.