Teaching Statement – Joel Kariel

My teaching experience involves both undergraduate and postgraduate courses, across a variety of topics, at multiple institutions. I taught as a Stipendiary Lecturer throughout my masters and PhD program, which taught me the organisation and discipline to balance research and teaching for an academic career.

From 2017 – 2021, I taught Introductory Economics to first-year undergraduates who I had interviewed the previous year at St Hilda's College, University of Oxford. This course involved had three components: Mathematical Methods, Microeconomics, and Macroeconomics. The idea of these courses is to provide the core skills required to take economics courses for final undergraduate examinations, which required getting through a lot of material in just 16 weeks (two terms). I taught small classes of 10 – 15 pupils and tutorials of 2 – 3 students. These classes were complements to the lectures, and involved setting, marking, and discussing problem sets and essays. I adapted these questions from existing material, and the assignments evolved over the years as I replaced and tweaked problems in accordance with the lectures and my sense of how to stretch the students' understanding. The key textbooks in these courses were *Mathematics for Economics and Business* (Jacques) or *Maths for Economics* (Renshaw) for maths; *Intermediate Microeconomics* (Varian), *Microeconomics* (Katz and Rosen) or *The Economy* (CORE) for micro; *Macroeconomics* (Jones) or *The Economy* (CORE) for macro. I was also involved in setting and marking termly examinations.

In 2020, I taught Core Macroeconomics and Time Series Econometrics to final year undergraduates at Christ Church College, University of Oxford. These classes involved more challenging material than the first year courses, but were narrower in scope. In the former, we focused on analysing Monetary Policy and business cycles in a New Keynesian framework following *Macroeconomics: Institutions, Instability & Policies* (Carlin and Soskice). In addition, we covered growth theory (including endogenous growth models), Real Business Cycle Theory, and consumption theory (e.g. excess smoothness). The econometrics module included autoregressive processes, non-stationarity, Granger causality, forecasting, and error correction models. Students had to understand how to test for various concepts and were required to do these computations. It was important for me to link these concepts to real research applications, such as testing Hall's model of consumption, or thinking about how a model would imply evidence of excess sensitivity.

I particularly enjoy presenting students with a variety of methods to understanding core concepts. For example, when teaching consumer theory I show solutions with algebra, diagrams, real-world applications, and computational examples. For the latter approach, I created an R program to highlight the comparative statics of consumer theory by allowing students to input income and prices and compare the outcomes. I have also used statistical programs to highlight important concepts in time series econometrics; showing why non-stationarity is problematic, how to test for unit roots, and how to create and test predictive models.

I have given a few lectures at the University of Kent in Monetary Macroeconomics. This required slightly different skills, as there was somewhat less student interaction than a class with two pupils! To deal with this dynamic, I included a set of questions at the end of the lecture to get the audience engaged. I always endeavour to include recent research in my teaching, as I believe students should be aware of the latest developments and findings. To this end, I ensured these lectures included information on recent empirical evidence on the Phillips Curve, and data on the trends that occurred during the pandemic-induced recession.

Finally, I have twice been a TA on the Computational Macroeconomics Summer Course run by Wouter den Haan and Petr Sedláček, aimed at postgraduate students. This has given me good experience at explaining more difficult concepts to students who have strong backgrounds in economics. We covered a wide range of topics, such as function approximation and numerical integration to solve non-linear DSGE models. The course teaches estimation methods such as the Kalman filter, Bayesian estimation, and MCMC methods. The advanced extension includes heterogeneous agents and continuous time models. It is all taught in Matlab.

Teaching interests: Given my research interests, I would like to teach on theoretical, computational, and empirical macroeconomics, applied microeconomics, firm dynamics, and labour economics. I would also be interested in teaching programming courses in R, Matlab, or Python.