

I have several years of postgraduate teaching experience, primarily at the University of Oxford, but also at the University of Birmingham. I have been privileged to teach a wide variety of of courses. Below I outline *an abridged version* of my portfolio of existing courses, noting that I would be delighted to teach any course on computational or quantitative social science more broadly.

1. Open and Reproducible (Social) Science: This comprehensively deals with all relevant issues associated with conducting Open, Transparent, and Reproducible Social Science. It covers discussions related to the use of Free and Open Source Software (and the principles of version control), the on-going replication crisis in science, and outlines the tools and best practices for addressing researcher degrees of freedom. It also provides a practical introduction to various tools (e.g. version control, the command line, and open source typesetting).

2. An Introduction to Typesetting in T_EX: This module gives an introduction to a popular typesetting language used within (quantitative) academic research. It roughly follows ‘T_EX in 127 Minutes’, and has interwoven exercises and interactive ‘live-programming’ elements. This course is built on those taught for several years at the University of Birmingham, and then at the University of Oxford as part of the Oxford | Berlin Summer School in Open and Reproducible science.

3. Demographic Analysis: This core course introduces the foundations of modern demography. It moves from the key concepts of age-standardized rates and exposure, through to Lexis Diagrams, and then through to cohort and period life table analysis, fertility, migration, and then project. It has multiple discussion groups and practical labs (taught in R) throughout the course.

4. An Introduction to Python for the Social Sciences: This provides a comprehensive introduction to the Python programming language, useful for anyone interested in utilizing the power of a general purpose programming language for academic research. The course assumes no prior knowledge, moving from basic object types, to collections, to control statements and then functions. It can be made more or less advanced contingent on the experience of the class.

5. Graduate Econometrics: This core graduate class in statistical methods mostly focuses on time series econometrics, but begins with a general introduction to linear least squares regression and the Gauss Markov Theorem. It then moves to logistic regressions and beyond, before considering the key concepts of stationarity, unit roots, autoregressive moving averages, and then on to panel econometrics.

6. An Introduction to Social Data Science: This longer course covers many topics, beginning with an introduction and review of the most commonly used language for social data science/computational social science: Python. It talks about principles of version control and shell scripting for reproducible research as part of a holistic research pipeline. We then provide introductions to three key substantive areas of interest: machine learning, network science, and natural language processing (covering other sub-modules such as web-scraping and data visualization along the way). The course is provided as a sequence of Jupyter Notebooks, and involves a substantial element of live coding. Each session (between either two or four hours) will contain (optional or compulsory) homework which will be solved live at the start of the following, subsequent class.

7. Life Course Research: This core module which is compulsory for MPhil students in Sociology and Demography at the University of Oxford begins with an introduction to the history of the discipline of Life Course Research. It then coverts several related sets of substantive topics and methodologies. This includes topics such as Health and the Life Course, Family and the Life Course, Transitions to Adulthood, Sequence Analysis, Survival Analysis and Sociogenomics. It is primarily lecture based, but contains a mix of supplemental discussion groups and programming labs (in R).