

# SHORT COURSES in Survey Data Analysis for Development

### SUMMER PROGRAMME

Short courses are a great way to acquire new skills or to enhance/refresh your existing skills. We offer short courses in January and February on the Middle Campus at the University of Cape Town. Our courses have a strong practical component and teaching takes place in a computer lab.

Registered university students qualify for discounts.

#### Introduction to Data Analysis using Stata, 15-17 January 2020

The course is aimed at those who are new to Stata, as well as anyone who needs a basic Stata refresher. You will learn techniques for day-to-day use of Stata as well as be able to use Stata efficiently for basic analyses and graphics. This course is also designed for people who wish to attend the other courses in this programme, in particular the "Complex Social Survey Data" course or the "Measuring Economic Welfare" one.

#### \*Introduction to Data Analysis using R, 20-22 January 2020

R is a free statistical programming language. It works well with data, making it a great language for anyone interested in analyzing data. In this course you will learn the fundamental programming concepts in R. You will learn how to organize, modify and clean data frames and how to create data visualizations.

#### \*Analysing Spatial Data using R, 23 and 24 January 2020

We will look at how spatial data (vector, raster) can be manipulated using R. These techniques will be applied to analysing spatial inequality and electrification using night lights data.

#### Econometrics, 20-24 January 2020

This course revises the statistical concepts relevant to regression analysis. It introduces Ordinary Least Squares regression and discusses how and why it is used. The course also covers inference in regression, dummy dependent variables, violations of the OLS assumptions and specification and data issues. Participants will use household survey data and the statistical software Stata.

#### Understanding Complex Social Survey Data, 27-31 January 2020

This course is aimed at postgraduate students (Masters and Ph.D.), researchers, and officials in state agencies wanting to analyse social surveys using Stata. It explains the complex nature of the sample design of household surveys, including unequal probabilities of selection and weighting, clustering and stratification. It also covers calibration, variance estimation, data quality and (briefly) imputation.

#### Understanding Panel Survey Data, 3-7 February 2020

The aim of the course is to introduce students to the techniques used in the analysis of "cross-sectional" panel data sets, such as the National Income Dynamics Study (NIDS). The course will begin with an introduction to using and analysing panel data. It will cover first differencing, fixed effects and random effects regression estimators as well as the construction and evaluation of transition matrices. Students will also be introduced to the problem of differential attrition.

## \*Dealing with Missing Value Problems by means of Multiple Imputation using Stata, 3-7 February 2020

This course will introduce the theory of multiple imputation and show different algorithms for doing such imputations and how to analyse the resulting data. Wage inequality in South Africa will be explored using these techniques.

\*These three courses are sponsored by the African Centre of Excellence for Inequalities Research (ACEIR).



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