

## Graduate School Workshop on Statistical Analysis using R

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### **Aims**

On completion, students should know how to:

- a) install R from scratch
- b) identify and install additional packages in R
- c) import data to R in different formats
- d) manipulate data in R for use in different ways including transformations
- e) apply core statistical techniques in R to real datasets
- f) use diagnostic checks in R to identify inappropriate assumptions

### **Organization**

Students must bring their own laptop (Windows, Mac or Linux are all fine), but do not need to pre-install any software as installation will be part of the workshop.

The workshop will be run across two afternoons in a small conference room. Students are welcome to bring their own datasets for exploration in the second afternoon, but some datasets will be provided for everyone else to choose from.

### **Assumed knowledge**

Students will be assumed to already understand basic estimation and hypothesis testing for linear models. I will provide a downloadable textbook in advance for those who need revision.

### **Reference**

An Introduction to R - please download this in advance to your laptop:

<https://cran.r-project.org/doc/manuals/r-release/R-intro.pdf>