

Introduction to Quantitative Methods 532X8 (15 credits)

All full time MSc SRM students take this module. Part-time MSc SRM students take this module in year 2. Open to Doctoral Researchers subject to space.

Convenor: Dr Julie Litchfield, Jubilee 276, xt 8725, j.a.litchfield@sussex.ac.uk

Office hour: Tuesday 2-3. Please post general queries about the module, assessments, SPSS etc on the online forum and only email me if the query is personal.

Timetable from week 3 of term:

Lectures: Wednesdays 2-3, Arts A005

Seminars and computer workshops: Wednesdays 4-6 Ashdown House G4

NB no teaching in week 6 of term for prep of project topic.

Aims

This 15-credit MSc module does not assume that you have a background in statistics, but will be useful even to those that have some stats knowledge. The objectives of this module are to equip students with (1) basic concepts in quantitative analysis in social sciences research, and (2) practical skills to conduct and interpret commonly used statistical methods. In addition to some basic concepts, such as understanding what we mean by a distribution, we will cover some of the most commonly used basic quantitative research methods and tests, such as chi-square test of association, t-tests, correlation and regression. We will develop these skills using problem sets and also practical applications in SPSS.

Objectives & Learning Outcomes

By the end of the module students will have:

- an understanding of the basic concepts in quantitative research;
- an understanding of the most commonly used basic quantitative research methods;
- the ability to conduct elementary statistical tests.
- the ability to interpret results of commonly used statistical tests in academic journals.

Organisation of the module

As you can see from the timetable, the module will be taught by means of lectures and practical workshops.

Learning how to calculate, interpret and use statistics comes with lots of practice and problem solving and a small element of rote memorising. It is important that all students read from at least one of the key texts every week BEFORE the lectures and workshops.

It is *also* important for students to spend time working outside the classroom on the key ideas and on practising how to use the software package SPSS independently as the report is based on your practical work in SPSS.

Assessment

This module is assessed by:

One 2500-word report to be submitted in January (this accounts for 100% of the module mark). ***Instructions will be placed on the Study Direct site.*** You will have the freedom to choose a data set from a short-list of those available on the UK Data Service and to decide on the direction of your study, but a number of required tasks will be specified. **Submission deadline early January, date and time to be confirmed on Sussex Direct. I will read and feedback on a report plan during term.**

Writing Well and Avoiding Academic Misconduct

Plagiarism, collusion, and cheating in exams are all forms of academic misconduct which the University takes very seriously. Every year, some students commit academic misconduct unintentionally because they did not know what was expected of them. The consequences for committing academic misconduct can be severe, so it is important that you familiarise yourself with what it is and how to avoid it.

The University's [S3 guide to study skills](#) gives advice on writing well, including hints and tips on how to avoid making serious mistakes. You will also find helpful guides to referencing properly and improving your critical writing skills. Make use of the resources there.

If you are dealing with difficult circumstances, such as illness or bereavement, do not try to rush your work or hand in something which may be in breach of the rules. Instead you should seek confidential advice from the Student Life Centre. The full University rules on academic misconduct are set out in the Examination and Assessment Regulations Handbook.

Key texts (* Highly recommended especially if you plan of going further with quant methods)

Argyrous, G. (2005) *Statistics for Research: With a Guide to SPSS*. (2nd ed.) London: Sage.

*Field, A. (2009) *Discovering Statistics Using SPSS for Windows: Advanced Techniques for the Beginner*. (3rd ed.) London: Sage. (Provides good integration of practical usage of SPSS and understanding of statistical concepts. Clearly written.)

Lock, RH, Lock PF, Morgan, KL, Lock EF and DF Lock (2013) *Statistics, UnLOCKing the power of Data*, Wiley, Hoboken NJ.

Salkind, N.J. (2011) *Statistics for People Who (Think They) Hate Statistics*. (4th ed.) London: Sage. (Intended for anyone who wants to learn or brush up on the basics of statistics but is anxious about their abilities, this book offers a slow-paced, entertaining introduction to statistical ideas and use of the software package SPSS.)

In addition, I strongly recommend watching some of Andy Field’s videos on statistics and SPSS. The style is not to everyone’s taste (TW: satanic images) but meant in a light –hearted way and once you get beyond the appearance, the content is excellent.

<http://www.statisticshell.com/html/limbo.html>

Schedule

Date	Topic
Oct 10th	Where does quantitative data come from? <i>Sampling, surveys and experiments, questionnaires and variables. Overview of useful data sets</i>
Oct 17th	How do we summarise data? <i>Distribution mean, median, standard deviation and variance; range; frequency tables and graphs. The Normal distribution.</i>
Oct 24th	How do we test a hypothesis? <i>Principles of statistical inference: the null and alternative hypotheses; using statistical tables. Testing hypotheses about the “true” population mean;</i>
Oct 31st	No lecture or class: <i>Use this time to begin exploring the dataset of your choice and doing some of the work for your assessment.</i>
Nov 7th	More on testing hypotheses. <i>Confidence intervals and hypothesis tests testing hypothesis about differences between population means.</i>
Nov 14th	How do we look for associations across groups? <i>Using Anova, chi squared distribution and tests</i>
Nov 21st	How do we look for relationships between variables? <i>Part 1: correlation, scatter plots and simple regression</i>
Nov 28th	<i>Part 2: Multiple Regression</i>
Dec 5th	<i>No lecture. Use class time for supported individual work on your project.</i>
Dec 12th	<i>No lecture. Use class time for supported individual work on your project.</i>