



SO5041 Unit 0: Course Outline

Brendan Halpin

September 16, 2024

SO5041 Course outline

SO5041 Autumn 2023/4 – Module outline¹

Module Code:	SO5041
Module Title:	Quantitative methods for MA research
Academic Year:	2024/5
Semester:	Autumn
Lecturer:	Dr Brendan Halpin
Lecture Locations:	Class: Mon 10-12 ER2011; Lab: Mon 13-15 A0060a
Lecturer Contact Details:	brendan.halpin@ul.ie, Phone: ext 3147
Lecturer Office Hours:	Fri 13:30-15:30

¹The definitive version of this document is at

<https://teaching.sociology.ul.ie/so5041/so5041outline.pdf>

Short Summary of Module:

An introduction to quantitative research methods in sociology.

Aims and Objectives of Module:

- Course focus:
 - The role of empirical reasoning in sociology, using quantitative data
 - Quantitative social science data collection, especially the survey
 - Handling quantitative data: coding it onto a computer, organising it, presenting it
 - Statistical analysis: making claims about the world using quantitative data – *sampling and inference*

- Practical focus:
 - Using software to analyse data and prepare findings
 - Stata: statistical software package
 - Microsoft Excel: spreadsheet
 - Carrying out questionnaire-based research
 - Becoming a critical consumer of quantitative research

Learning Outcomes:

- Apply quantitative methods to real research problems
- Critically assess published research using quantitative methods
- Choose appropriate research methods for MA research
- Use software effectively and reproducibly to manage, present and analyse social science data

Course Structure:

One two-hour lecture per week, one two-hour lab per week.

Detailed Module Plan

- Introduction to quantitative method – use number to represent information, simple descriptive statistics & presentations. Use Stata to enter & report data
- Samples, surveys and probability – the *theory* of how a sample can be used to describe a population, some elementary probability theory, basic questionnaire design and survey implementation. Manipulating data in Stata, more presentation.
- Statistical inference – the *practice* of using a sample to describe a population. Statistically informed use of Stata: testing difference of means, analysing association in tables.
- Linear regression and correlation
- Regression analysis with multiple explanatory variables?
- In parallel, reading and discussion of a small number of quantitative research reports

Lecture topics by week

Week	Topic	Lecture
1:	General introduction, (1) Introducing Quantitative Social Research	✓
2:	(2) Surveys, Questionnaires and Sampling, (3) Numbers as Information, univariate analysis	✓
3:	(4) Bivariate analysis	✓
4:	(4) Bivariate analysis continued, (5) Spread, types of variables	✓
5:	(6) Sampling, (7) Distributions	✓
6:	(8) More on Distributions, (9) Sampling Distributions and the Central Limit Theorem	✓
7:	(10) Sampling and confidence intervals, (11) Two new distributions: t and χ^2	✓
8:	Bank Holiday	X
9:	(12) Questionnaire Design	✓
10:	(13) Hypothesis testing, (14) More t -tests	✓
11:	(15) Correlation, (16) Regression	✓
12:	(16) Regression continued	✓

Lab topics by week

Week	Topic	Lab
1:	Logging on, running Stata, general intro	✓
2:	Univariate and bivariate analysis	✓
3:	(no lab)	X
4:	Data entry, editing data in Stata, missing values	✓
5:	Using the Normal Distribution (by hand, spreadsheet)	✓
6:	Confidence intervals for means and proportions (by hand, Stata)	✓
7:	Understanding the standard deviation (spreadsheet exercises)	✓
8:	Bank Holiday	X
9:	Chi-squared test (spreadsheet and Stata)	✓
10:	Hypothesis test on a mean (spreadsheet and Stata)	✓
11:	More hypothesis tests; correlation	✓
12:	Regression analysis using Stata	✓

- Main text: Agresti, *Statistical Methods for the Social Sciences* – good introduction to formal statistical methods, very clear and accessible (will use more extensively in second semester course)
- For Stata:
 - Robson and Pevalin, *The Stata Survival Manual*
 - Kohler and Kreuter, *Data Analysis using Stata*
 - Acock, *A Gentle Introduction to Stata*
- Dip into Alan Bryman, *Social Research Methods*
- See also David de Vaus, *Surveys in Social Research*: good on survey methodology
- Other occasional readings
- Software: We will have access to Stata in the PC-Lab. You may also decide to buy a six-month student licence for Stata/BE at

<https://www.stata.com/order/new/edu/gradplans/student-pricing/>.

Details of Module Assessment

Assessment will be by means of four assignments, worth 25% each. These will involve a range of activities, including use of Stata, online exercises on statistical concepts, and short essay-style questions. These will be due at ends of weeks 5, 9, 12 and 15. The fourth assignment will take the place of a formal exam.

Note on assignments

- Cooperation between students is encouraged but assignments must be the student's own work
- Please refer to Dept Plagiarism Policy below.
- Please use the Dept Assignment Declaration form with all assignments (except online) <https://www.ul.ie/artsoc/sociology/student-resources>
- Note the Dept's policy on deadlines
<https://www.ul.ie/artsoc/sociology/student-resources>

Details of Annual Repeats

- Repeat assessment: 100% exam, August 2023

The module will use BrightSpace for materials and submission of assignments. We will also use <https://teaching.sociology.ul.ie/so5041>, particularly for resources that need to be accessed directly.

Written feedback will be provided after each assignment during the semester.

Plagiarism notice

It hardly needs to be said, but all work must be your own. All material drawn from other sources must be clearly attributed. Passing off others' work as your own is considered academic dishonesty, and can be subject to substantial penalties. Please familiarise yourself with the departmental policy on plagiarism and use the coversheet declaration with all assignments (both available at <http://www.ul.ie/sociology/> under Student Resources).

Please also note the Department's policy on deadlines, also available at <http://www.ul.ie/sociology/> under Student Resources.