

# PO92Q-20 Advanced Quantitative Research

**23/24**

**Department**

Politics & International Studies

**Level**

Taught Postgraduate Level

**Module leader**

Philippe Blanchard

**Credit value**

20

**Module duration**

9 weeks

**Assessment**

100% coursework

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

QS903-20

[Module web page](#)

### Module aims

This module introduces students to a selected set of advanced statistical methods that are commonly used in quantitative social research. A further aim is to familiarise students with the key issues in the craft of applied work so that they become careful, considered and thoughtful researchers in quantitative social sciences.

### Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Week 1: Introduction to the module, data and software

Weeks 2-3: Topic 1

Weeks 4-5: Topic 2

Week 6: Reading Week

Weeks 7-8: Topic 3

Weeks 9-10: Revision and Data Analysis Workshops

The three topics offered might vary from year to year, depending on staff availability and student demand. The methods covered will be announced in advance, and they are likely to be drawn from the following list:

Categorical data analysis (e.g. loglinear analysis)

Causal inferences with observational, experimental and quasi-experimental data

Event history analysis

Qualitative Comparative Analysis

Correspondence Analysis

Latent Class Analysis

Multilevel analysis

Panel data analysis

Social network analysis

Bayesian Analysis

Agent Based Simulation

Spatial Analysis

## **Learning outcomes**

By the end of the module, students should be able to:

- understand and appreciate forms of statistical analysis and advanced quantitative approaches
- have an awareness of the value of, and practical experience of applying advanced quantitative analysis techniques
- have a heightened awareness of both the technical and theoretical/conceptual dimensions of quantitative data analysis
- carry out a range of advanced statistical analyses using statistical computing software
- manipulate and to analyse secondary survey data using statistical computing software, and to present and interpret the results of these analyses appropriately at an advanced level
- carry out advanced statistical analyses using statistical software

## **Indicative reading list**

Agresti, A. (2007) *An Introduction to Categorical Data Analysis*. 2nd ed. Wiley.

Bartholomew D. (2011) *Analysis of multivariate social science data*. CRC

Crawley M. J. (2013) *The R book*. Wiley

Firebaugh, G. (2008) *Seven Rules for Social Research*. Princeton University Press.

Fox, J. and Weisberg S. (2019) *An R companion to applied regression*. Sage

Fox J. (2016) *Applied regression analysis and generalized linear models*. Sage

Hardy M. A. and Bryman A. (2009) *Handbook of data analysis*. Sage

Powers, D.A. and Xie, Y. (2008) *Statistical Methods for Categorical Data Analysis*. 2nd ed.

Howard House.

Singer, J.D. and Willett, J.B. (2003) Applied Longitudinal Data Analysis. Oxford University Press.  
Wasserman, S. and Faust, K. (1995) Social Network Analysis. Cambridge University Press.

[View reading list on Talis Aspire](#)

## Subject specific skills

Key Skills; Subject-Specific/Professional Skills

- carry out a range of advanced statistical analyses using statistical computing software
- manipulate and to analyse secondary survey data using statistical computing software, and to present and interpret the results of these analyses appropriately at an advanced level
- carry out advanced statistical analyses using statistical software
- provide in-depth interpretation about advanced quantitative analysis  
critique and critically engage published quantitative research

## Transferable skills

Cognitive Skills

- have a heightened awareness of both the technical and theoretical/conceptual dimensions of quantitative data analysis

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## Study

### Study time

Type	Required
Lectures	9 sessions of 1 hour (4%)
Practical classes	9 sessions of 2 hours (9%)
Private study	173 hours (86%)
Total	200 hours

### Private study description

tbc

### Costs

No further costs have been identified for this module.

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## Assessment

You must pass all assessment components to pass the module.

## Assessment group A

	<b>Weighting</b>	<b>Study time</b>
Technical Report	100%	
One 4,000-word technical report.		
Note that word count for quantitative methods modules (coded "P...Q") follows a specific rule: illustrations count for 400 words per equivalent page.		

## Feedback on assessment

Detailed and regular feedback will be provided throughout the module.

### FORMATIVE

Verbal feedback on lab work will be provided at relevant points in the lectures and workshops throughout all sessions. This will be provided by module teachers at each session. In addition, student participation is encouraged and this includes students giving each other peer feedback during classes on their own work as well.

### SUMMATIVE

Detailed written feedback will be provided on summative assessments. This will be provided by tutors marking individual student work and commenting on issues and errors throughout their assignments.

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## Availability

## Courses

This module is Core for:

- Year 1 of TPOS-M9Q1 Postgraduate Politics, Big Data and Quantitative Methods

This module is Core optional for:

- Year 1 of TPOS-M9PV Double MA in Journalism, Politics and International Studies (with Monash University)
- TIMS-L990 Postgraduate Big Data and Digital Futures
  - Year 1 of L990 Big Data and Digital Futures
  - Year 2 of L990 Big Data and Digital Futures

This module is Optional for:

- Year 1 of TPOS-M9PT MA in International Development
- Year 1 of TPOS-M1PA MA in International Politics and Europe
- TIMA-L995 Postgraduate Taught Data Visualisation
  - Year 1 of L995 Data Visualisation

- Year 2 of L995 Data Visualisation
- Year 1 of TPOS-M1P3 Postgraduate Taught International Political Economy
- Year 1 of TPOS-M1P8 Postgraduate Taught International Politics and East Asia
- Year 1 of TPOS-M9P9 Postgraduate Taught International Relations
- Year 1 of TPOS-M9PC Postgraduate Taught International Security
- Year 1 of TPOS-M9PS Postgraduate Taught Political and Legal Theory
- Year 1 of TPOS-M9PF Postgraduate Taught Public Policy
- Year 1 of TPOS-M9PQ Postgraduate Taught United States Foreign Policy
- Year 1 of TIMA-L99D Postgraduate Taught Urban Analytics and Visualisation

This module is Option list A for:

- Year 1 of TIMS-L990 Postgraduate Big Data and Digital Futures