

PO11Q-15 Introduction to Quantitative Political Analysis I

24/25

Department

Politics & International Studies

Level

Undergraduate Level 1

Module leader

Florian Reiche

Credit value

15

Module duration

10 weeks

Assessment

25% coursework, 75% exam

Study location

University of Warwick main campus, Coventry

Description

Introductory description

A vast amount of political research is quantitative, and even if you decide never to conduct quantitative analysis yourself, you will find an introductory level of knowledge in quantitative methods useful to critically engage with your discipline as a whole. Skills in data analysis are also crucial for finding employment in graduate level jobs; the Institute of Student Employers found in its 2018 report that "data analysis" is amongst the 5 most important skills employers wish graduate students to have. This module will deliver an introduction to quantitative political analysis. It is based on Reiche's typology of Quantitative Methods, and explores each of its tasks (conceptualisation and measurement, numerical data, data analysis and interpretation) at an introductory level. The module uses the software R.

Module aims

- To introduce students to the importance of quantitative methods in political analysis
- To introduce students to the typology of quantitative methods
- To deliver a basic introduction to each task of quantitative methods (conceptualisation and measurement, numerical data, analysis, and interpretation) through substantive politics

examples

- To provide an introduction to "data analysis" skills for employability
- To introduce students to the software R

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.

1. Introduction to Quantitative Methods in Political Analysis

I. CONCEPTUALISATION AND MEASUREMENT

1. Conceptualisation and Measurement
2. Conceptualisation and Measurement in the Real World

II. NUMERICAL DATA

1. Exploration of Single Variables
2. Levels of Measurement and Distributions
3. (Reading Week)

III. DATA ANALYSIS AND INTERPRETATION

1. Sampling Distributions and z-Scores
2. Confidence Intervals and the t-Distribution
3. Sample Size and Statistical Inference
4. Introduction to Causality

Learning outcomes

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

- Apply the tasks of Quantitative Methods to substantive politics research problems
- Understand the basic principles of conceptualisation and measurement in political science
- Analyse core descriptive statistics, by hand and through the software R
- Understand the basic principles of causality
- Understand the principles of statistical inference

Indicative reading list

- Adcock, R., & Collier, D. (2001). Measurement Validity: A Shared Standard for Qualitative and Quantitative Research. *American Political Science Review*, 95(3), 529-546.

- Agresti, A. (2018). *Statistical Methods for the Social Sciences* (Fifth ed.). Harlow: Pearson.
- Ake, C. (1993). The Unique Case of African Democracy. *International Affairs*, 69(2), 239-244.
- Brady, H. E. 2011. Causation and Explanation in Social Science. In R. Goodin (Ed.), *The Oxford Handbook of Political Science*. Oxford University Press.
- British Election Study. (2020). British Election Study. available online at <https://www.britishelectionstudy.com/data/>.
- Clark, T., Foster, L., & Bryman, A. (2021). *Bryman's Social Research Methods* (Sixth ed.). Oxford: Oxford University Press.
- Dasgupta, P. (1993). *An Inquiry Into Well-Being And Destitution*. Oxford: Oxford University Press.
- European Commission. (n.d.). Eurostat – Your Key to European Statistics. available online at <https://ec.europa.eu/eurostat/data/database>.
- Frankfort-Nachmias, C., Nachmias, D., & DeWaard, J. (2008). *Research Methods in the Social Sciences* (Eighth ed.). New York: Worth Publishers.
- Huff, D. (1991). *How to Lie with Statistics*. Penguin.
- Jerven, M. (2011). Users and Producers of African Income: Measuring the Progress of African Economies. *African Affairs*, 110(439), 169-190.
- King, G. (1995). Replication, replication. *PS: Political Science and Politics*, 28(3), 541-559.
- Munck, G. L., & Verkuilen, J. (2002). Conceptualizing and Measuring Democracy: Evaluating Alternative Indices. *Comparative Political Studies*, 35(5), 5-34.
- Perkins, D. H., Radelet, S., Snodgrass, D. R., Gillis, M., & Roemer, M. (2001). *Economics of development* (Fifth ed.). New York, NY: Norton.
- Reiche, F. (in press). *Introduction to Quantitative Methods for the Social Sciences*. Oxford: Oxford University Press.
- Republic of Kenya. (1968). *Economic Survey 1967*.
- Republic of Zambia. (n.d.). *National Accounts Statistics GDP Revision of Benchmark 1994 Estimates*. Lusaka: Central Statistical Office.
- Rich, R. C., Brians, C. L., Manheim, J. B., & Willnat, L. (2018). *Empirical Political Analysis: Quantitative and Qualitative Research Methods*. London: Routledge.
- Tufte, E. R. (2001). *The Visual Display of Quantitative Information* (Second ed.). Cheshire, Conn: Graphics Press.
- UNODC. (2019). *Crime Data: Total Prison Population*. available online at <https://dataunodc.un.org/crime/total-prison-population>.

- Vanderbilt University Department of Biostatistics. (n.d.). Vanderbilt Biostatistics Datasets. available online at <https://hbiostat.org/data/>.
- World Bank. (2020). World Development Indicators. available online at <https://datacatalog.worldbank.org/dataset/world-development-indicators>.

[View reading list on Talis Aspire](#)

Research element

Mini Research Project during seminars

International

Data from around the world is used.

Subject specific skills

- Quantitative Research Design
- Basic proficiency in a statistical programme
- Process of Conceptualisation and Measurement and its relevance in political science research
- Calculation of descriptive statistics

Transferable skills

- Written communication skills
- Oral communication skills
- Problem-solving skills
- Skills in the use of information technology
- Skills of interpretation and the critical analysis of primary and secondary sources
- The ability to digest, retain and apply complex information and ideas
- Ability to conduct research and reference your work appropriately
- Time management skills and the ability to meet deadlines
- The ability to reflect critically on the extent and limitations of how and what you have learned, discovered and understood

Study

Study time

Type	Required
Lectures	9 sessions of 1 hour (6%)
Total	150 hours

Type	Required
Seminars	9 sessions of 2 hours (12%)
Private study	123 hours (82%)
Total	150 hours

Private study description

Guided reading through reading list, completion of research project and homework in preparation of seminars.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

Assessment group D1

	Weighting	Study time
Conceptualisation and Measurement	25%	
The report will ask students to critically reflect on the two tasks of conceptualisation and measurement for a political science concept; a list of concepts will be provided.		
Exam	75%	
Exam with a mix of multiple-choice, mini-essays and calculations.		

~Platforms - Moodle,WAS

- Online examination: No Answerbook required
- Students may use a calculator

Feedback on assessment

Detailed and regular feedback will be provided throughout the module.

FORMATIVE Weekly formative quiz on Moodle, verbal feedback.

SUMMATIVE Detailed written feedback will be provided on the written report. A solutions key to the exam will be uploaded after the exam has taken place.

Availability

Post-requisite modules

If you pass this module, you can take:

- PO12Q-15 Introduction to Quantitative Political Analysis II

Anti-requisite modules

If you take this module, you cannot also take:

- SO130-15 Introduction to Social Analytics in Social Inequalities Research

Courses

This module is Core for:

- Year 1 of UPOA-M162 Undergraduate Politics, International Studies and Quantitative Methods

This module is Optional for:

- Year 2 of UPOA-M100 Undergraduate Politics
- UPOA-M16A Undergraduate Politics and International Studies
 - Year 2 of M16A Politics and International Studies
 - Year 2 of M16A Politics and International Studies
 - Year 2 of M16A Politics and International Studies

This module is Unusual option for:

- UPHA-V7ML Undergraduate Philosophy, Politics and Economics
 - Year 1 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 1 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 1 of V7ML Philosophy, Politics and Economics (Tripartite)

This module is Option list A for:

- UPHA-V7ML Undergraduate Philosophy, Politics and Economics
 - Year 1 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 1 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 1 of V7ML Philosophy, Politics and Economics (Tripartite)
- Year 1 of UPOA-M100 Undergraduate Politics
- UPOA-M16A Undergraduate Politics and International Studies
 - Year 1 of M16A Politics and International Studies

- Year 1 of M16A Politics and International Studies
- Year 1 of M16A Politics and International Studies
- Year 2 of UPOA-ML13 Undergraduate Politics and Sociology
- Year 2 of UPOA-M163 Undergraduate Politics, International Studies and French