MATH 3017 DATA ANALYSIS AND VISUALISATION FOR SOCIAL POLICY

Credit Points 10

Coordinator Thierno Diallo (https://directory.westernsydney.edu.au/search/name/Thierno Diallo/)

Description This subject provides students with an applied interdisciplinary understanding of statistics and quantitative data science methods, commonly used within the social sciences and social policy environments. The subject will equip learners with quantitative tools and methods utilised with small and large datasets, and data visualisation techniques to answer questions of cultural, social, economic, and policy interest. The subject develops students' theoretical knowledge of statistical methods, practical knowledge of commonly used statistical software package, and applied knowledge through the analysis of real-world social problems. The knowledge and skills of this subject are of relevance to students seeking to work in social policy and/or social research within academia, government, industry and/or NGOs.

School Social Sciences

Discipline Statistics

Student Contribution Band HECS Band 1 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Restrictions

Successful completion of 120 credit points.

Learning Outcomes

• SLO1: Summarise data graphically and numerically
• SLO2: Apply software tools to manage and explore data
• SLO3: Evaluate statistical strategies to answer a research question
• SLO4: Interpret results of a statistical analysis
• SLO5: Evaluate the appropriateness of statistical methodologies when analysing a variety of problems arising from the social sciences
• SLO6: Communicate results of statistical analysis

Subject Content

- Role of quantitative method in social policy
- Measurement scales
- Descriptive statistics
- Data visualisation
- Basic probability
- Normal distribution
- Sampling distribution of statistics
- Confidence intervals and hypothesis testing
- Analysis of variance
- Chi-squared test
- Correlations
- Single and multivariate linear models

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Log/ Workbook	6 x 90 minutes and 3 submissions in total	50	N	Individual	N
Multiple Choice	2 x 1 hour	20	N	Individual	N
End-of-session Exam	2 hours	30	N	Individual	N

Prescribed Texts

Poldrack, R. A. (2018). Statistical Thinking for the 21st Century. Stanford, California Russell Poldrack. (free online textbook)