PS923-15 Methods & Analysis in Behavioural Science

26/27

Department
Psychology
Level
Taught Postgraduate Level
Module leader
Peter Trimmer
Credit value
15
Module duration
10 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

The purpose of the module is to introduce experimental design and statistical programming.

Module web page

Module aims

Behavioural scientists need statistical analysis of experimental data and of large data sets. This module covers these topics to allow students to understand how to test hypotheses, plan experimental design and perform statistical analysis using 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.

Introduction to research methods, statistics, and R
Modern R: tidyverse et al.

Data visualization with ggplot2
Simple Linear regression
Multiple Linear regression
One categorical Covariate
Interactions of categorical predictors
More theory
Repeated-measures and pooling

Learning outcomes

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

- 2. Be able to design and report studies in a manner that permits replication attempts.
- 1. Understand hypothesis testing and the relationship between hypotheses and experimental planning and design.
- 3. Be able to program reproducible statistical analyses.

Indicative reading list

Reading lists can be found in Talis

Subject specific skills

- R statistical programming language
- Understanding of hypothesis testing
- Understanding of the relationship between hypotheses and experimental planning and design.

Transferable skills

- Statistical analysis
- demonstrate techniques for displaying data
- evaluate the appropriateness of different approaches

Study

Study time

Type	Required
Lectures	20 sessions of 1 hour (13%)
Practical classes	2 sessions of 2 hours (3%)
Online learning (scheduled sessions)	8 sessions of 2 hours (11%)
Total	150 hours

Type	Required
Private study	110 hours (73%)
Total	150 hours

Private study description

110 hours private guided study, including completion of assessments

Costs

No further costs have been identified for this module.

Assessment

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

Assessment group A8

	Weighting	Study time	Eligible for self-certification
Assessment component			
Presentation 15-30 mins	12%		No
Reassessment component is the same			
Assessment component			
weekly assignments 8 weekly brief assessments	16%		Yes (waive)
Reassessment component is the same			
Assessment component			
Assignment 1	36%		Yes (extension)

	Weighting	Study time	Eligible for self-certification
Reassessment component is the same			
Assessment component			
Assignment 2	36%		Yes (extension)
Reassessment component is the same			

Feedback on assessment

For the class test and written assignments, students will receive individual feedback on their solution plus model answers.
For the group presentations, students will receive written feedback at the end of the term.
For the weekly brief assignments, model answers will be provided.

Availability

Courses

This module is Core for:

- Year 1 of TPSS-C803 Postgraduate Taught Behavioural and Data Science
- TPSS-C8P7 Postgraduate Taught Behavioural and Economic Science (Science Track)
    - Year 1 of C8P7 Behavioural and Economic Science (Science Track)
    - Year 1 of C8P7 Behavioural and Economic Science (Science Track)
- Year 1 of TECS-C8P8 Postgraduate Taught Behavioural and Economics Science (Economics Track)

This module is Core optional for:

- Year 1 of TPSS-C8P9 Postgraduate Taught Psychological Research

This module is Optional for:

- Year 2 of TIMS-L990 Postgraduate Big Data and Digital Futures
- Year 1 of TIMA-L981 Postgraduate Social Science Research
- TIMA-L995 Postgraduate Taught Data Visualisation
    - Year 1 of L995 Data Visualisation
    - Year 2 of L995 Data Visualisation
- Year 1 of TIMA-L99D Postgraduate Taught Urban Analytics and Visualisation

This module is Core option list A for:

- Year 1 of TPSS-C8P9 Postgraduate Taught Psychological Research

This module is Option list A for:

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