

PS113-12 Statistical Methods in Psychology

22/23

Department

Psychology

Level

Undergraduate Level 1

Module leader

Derrick Watson

Credit value

12

Module duration

20 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module complements PS114 Research Methods in Psychology. It provides an introduction to the skills and knowledge necessary for psychological investigation and the statistical analysis of psychological research data.

[Module web page](#)

Module aims

The module covers the principles of various techniques and their procedural implementation. The module provides essential preparation for the second year methods course and the second and third year projects.

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 and Experimental Design

- 2 Qualitative Descriptive Statistics
- 3 Quantitative Descriptive Statistics
- 4 Probability distributions
- 5 Hypothesis Testing Overview
- 6 Tests for One Sample
- 7 Tests for Two Related Samples
- 8 Tests for Two Unrelated Samples
- 9 Correlation
- 10 Review

- 1 Regression
- 2 Chi-square
- 3 Oneway analysis of variance: Introduction
- 4 Oneway analysis of variance: Calculation
- 5 Factorial analysis of variance
- 6 Repeated measures analysis of variance
- 7 Ethics
- 8 Observation techniques
- 9 Non-parametric methods
- 10 Overview of Term 2 material

Learning outcomes

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

- Be able to understand and demonstrate knowledge of experimental design, ethics, and perform a range of quantitative and qualitative data analysis methods.
- Increase in numeracy and analytic skills.
- The ability to formulate and test hypotheses.

Indicative reading list

Essential course text

Howell, D. C. (2008). *Fundamental statistics for the behavioral sciences* (6th ed.). Belmont, CA : Thomson Wadsworth . (or a more recent edition of this text)

Also highly recommended is:

Nunn, J. (Ed.) (1998). *Laboratory psychology: A beginner's guide*. Hove, UK: Psychology Press.

Other useful sources

Harris, P. (2002). *Designing and reporting experiments in psychology*. Buckingham: Open University Press.

Mulberg, J. (2002). *Figuring figures: An introduction to data analysis*. Harlow, UK: Pearson Education.

Robson, C. (1993). *Real world research*. Oxford, UK: Blackwell.

Rosnow, R. L., & Rosnow, M. (2001). *Writing papers in psychology*. Belmont, CA : Wadsworth .

Subject specific skills

an ability to present, evaluate and interpret quantitative data
the design of factorial experiments, and factorial analysis of variance
a familiarity with the basic aspects of the most common research approaches to Psychology,
including statistical analyses;

Transferable skills

evaluate the appropriateness of different approaches to solving problems related to their area(s) of study and/or work
communicate the results of their study/work accurately and reliably
demonstrate techniques for displaying data

Study

Study time

Type	Required
Lectures	20 sessions of 1 hour (17%)
Seminars	20 sessions of 1 hour (17%)
Private study	80 hours (67%)
Total	120 hours

Private study description

guided student study and preparation for the two 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.

Students can register for this module without taking any assessment.

Assessment group A1

	Weighting	Study time
Assessed work 1	47%	
based on material from Term 1 (47%) Assessments will contain data analysis exercises AND		

Weighting

Study time

short answer questions or a short essay.

Assessed work 2 48%

based on material from Term 2 (48%). Assessments will contain data analysis exercises AND short answer questions or a short essay.

Research Experience 5%

Research experience contributes to both PS114 & PS113

Feedback on assessment

Academic guidance for assessed work; Tabula

Availability

Post-requisite modules

If you pass this module, you can take:

- PS215-15 Further Methods in Psychology

Courses

This module is Core for:

- Year 1 of UPSA-C800 Undergraduate Psychology
- Year 1 of UPSA-C804 Undergraduate Psychology with Education Studies
- Year 1 of UPSA-C802 Undergraduate Psychology with Linguistics