

## PS257 Statistics and Quantitative Approaches for Psychology

Welcome to PS257! Here we'll continue the journey you started in PS153 last year, getting you in even better shape to conduct a variety of statistical analyses for psychological research. Classes will take place in the Computer Lab at the Department of Psychology (John Hume Building) and will consist of a mixture of lectures and practical sessions with the SPSS software package. They will be delivered twice a week: every Tuesday 10:00-12:00 for lectures/practicals, and every Wednesday 10:00-12:00 for workshops to consolidate the Tuesday material. The exceptions will be *Wednesday November 8<sup>th</sup>*, when there will be no workshop; and the last two weeks of term, when assessments for the module will take place in-class.

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**Module Contributors:** Prof. Philip Hyland  
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**Module Objective:** To introduce computer-based data analysis techniques, and the theory behind them, for the exploration of key issues in designing, executing and analysing psychological data.

**Module Content:**

- Familiarisation with SPSS as a data handling and analysis programme.
- Descriptive and simple inferential statistical analysis using SPSS.
- Graphical representation of data using SPSS.
- Introducing factorial ANOVAs and factorial design.
- Introducing multiple regression.

**Learning Outcomes:**

On successful completion of this module, students should be able to:

- Demonstrate competence in the use of SPSS for quantitative data manipulation, graphical presentation and inferential and descriptive statistical applications;
- Describe the theoretical basis, applications and limitations of analysis of variance (ANOVA) techniques;
- Identify the theoretical basis, applications and limitations of multiple regression;
- Conduct thorough statistical analyses on psychological data sets to test stated hypotheses;

**Required Text:**

Pallant, J. (2020). *SPSS survival manual: A step-by-step guide to data analysis using SPSS program* (7th ed.). London: McGraw-Hill.

**Recommended Additional Texts:**

Field, A. (2017). *Discovering statistics using IBM SPSS Statistics* (5th ed.). London: Sage.

Howitt and Cramer, *An Introduction to Statistics in Psychology*. Pearson, 5<sup>th</sup> Ed.

Howitt and Cramer, *SPSS in Psychology*. Pearson, 5<sup>th</sup> ed.

Forshaw, M. *Easy Statistics in Psychology: A BPS Guide*, BPS Blackwell.

**Assessment:**

Assessment for the module will be comprised of two elements, both of which will be administered in-class over the final two weeks of the semester (see timetable below):

**1. Theory (50%), Wednesday December 13<sup>th</sup>**

You will complete 10 questions assessing your knowledge of the theoretical basis of the statistical analyses covered over the course of the module. Further details will be given closer to the assessment.

**2. Implementation (50%), Tuesday December 19<sup>th</sup>**

You will complete a series of tasks requiring you to implement a variety of the statistical analyses covered in module using SPSS, and report the appropriate output. Further details will be given closer to the assessment.

*This is a required module and cannot be passed by compensation for progression in the subject.*

**Compulsory Elements:** Both assessment components.

**Pass Standard and any Special Requirements for Passing Module:** 40%.

**Requirements for Autumn Supplemental Examination:** No supplemental assessment or examination.

**Class schedule:**

The provisional weekly schedule for the module is provided below (*note that this may be subject to updates – please keep an eye on Moodle*):

Week	Tuesday date	Topic	Lecturer	Wednesday workshop?
1	26 <sup>th</sup> Sept	Intro, manipulating data, descriptive stats	PM	Yes
2	3 <sup>rd</sup> Oct	Reliability, choosing the right statistic	PH	Yes
3	10 <sup>th</sup> Oct	T-tests	PH	Yes
4	17 <sup>th</sup> Oct	One-way ANOVA	PH	Yes
5	24 <sup>th</sup> Oct	Multifactorial ANOVA	PH	Yes
<b>STUDY WEEK</b>				
7	7 <sup>th</sup> Nov	Introduction to correlation and regression	PM	<b>No</b>
8	14 <sup>th</sup> Nov	Correlation and partial correlation	PM	Yes
9	21 <sup>st</sup> Nov	Multiple linear regression	PM	Yes
10	28 <sup>th</sup> Nov	Binary logistic regression	PM	Yes
11	5 <sup>th</sup> Nov	Chi-square test	PM	Yes
12	12 <sup>th</sup> Dec	Course review	PM/PH	<b>Assessment #1 on Wednesday 13<sup>th</sup></b>
13	19 <sup>th</sup> Dec	Assessment #2	PM/PH	No