Unit Outline (Higher Education)

Institute / School:	Institute of Health and Wellbeing
Unit Title:	PSYCHOLOGY RESEARCH: ADVANCED ANALYSIS
Unit ID:	PSYCB3109
Credit Points:	15.00
Prerequisite(s):	(PSYCB1003) (At least 15 credit points from PSYCB subject-area at 2000-2999 level)
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	090701

Description of the Unit:

The unit aims to extend students' knowledge of advanced statistical techniques and equip them with the ability to conduct these analyses. The unit will build on knowledge gained in earlier undergraduate research methods units. Specifically, the unit will focus on measurement, statistics fundamentals, exploratory data analysis and the family of statistical analyses that fall under ANOVA and regression. The unit will also provide insight into the designs associated with, and the logic that underpins, these analyses. Practical skills will be developed by having students conduct data-analysis techniques using a statistics package.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory						
Intermediate						
Advanced			✔			

Learning Outcomes:

On successful completion of the unit the students are expected to be able to:

Knowledge:

K1. Reflect on the role that statistical methods play in the advancement of psychological knowledge

K2. Deduce the appropriate statistical techniques for research designs given practical and methodological constraints

K3. Comprehend the theory underlying, and the assumptions of, several higher-level statistical and analytical techniques

K4. Interpret the results of a variety of data-analysis techniques

K5. Possess a critical awareness of issues associated with analytical techniques (e.g., effect sizes) and how these issues might influence the interpretation of results

Skills:

S1. Determine and implement appropriate parametric and non-parametric tests to answer research questions

S2. Utilise a statistical software package and demonstrate an ability to perform selected parametric and non-parametric tests

S3. Evaluate and explain the strengths and weaknesses of different data collection methods, and their corresponding data analysis techniques

S4. Report research in accordance with APA conventions

Application of knowledge and skills:

A1. Demonstrate proficiency in research reporting skills

A2. Apply appropriate statistical techniques using a statistical software package to analyse data, and interpret and communicate the findings accurately

A3. Exhibit a capacity to independently research, evaluate and identify evidence appropriate for supporting ones position

Unit Content:

Topics may include:

- A review of t-tests and correlations
- Understanding Type 1 and Type 2 errors
- Sampling methods
- Design-related confounds, extraneous variables, and measurement issues
- Experimental design and control
- The logic and assumptions of Analysis of Variance (ANOVA) and Multiple Regression
- Use of parametric forms of analysis (i.e., ANOVAs, multiple regression)
- Consideration of statistical power, effect sizes, and confidence intervals
- Concerns regarding the interpretation of results and the generalisability of findings
- Use of qualitative approaches: Data collection and methods of analysis

- Performing analyses using statistical software
- Reading and writing psychological research

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-K5, S1-S4, A1-A3	Produce a written report on a chosen statistical analyses according to APA guidelines.	Practical Statistical Analysis Assignments	70-90%
K1-K2, K4-K5, S3, A3	Demonstrate an understanding of fundamental concepts in research methods and statistics.	Online Test(s) or Quiz(s)	10-30%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool