PSYC40005 Advanced Design and Data Analysis

Credit Points:	12.50
Level:	4 (Undergraduate)
Dates & Locations:	This subject is not offered in 2014.
Time Commitment:	Contact Hours: Twenty-four hours of lectures, 12 hours of laboratory classes. Total Time Commitment: Estimated total time commitment of 120 hours.
Prerequisites:	No prerequisites are required for this subject
Corequisites:	No corequisites are required for this subject
Recommended Background Knowledge:	An accredited psychology major sequence
Non Allowed Subjects:	There are no non allowed subjects
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards of Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit Website: http://www.services.unimelb.edu.au/disability/
Contact:	Melbourne School of Psychological Sciences 12th floor Redmond Barry Building (Building 115 Map) Telephone: + 61 3 8344 6377 Email: enquiries@psych.unimelb.edu.au Web: http://www.psych.unimelb.edu.au
Subject Overview:	This subject provides an introduction to multivariate data analysis in the behavioural and social sciences, including the nature, rationale and application of a number of widely used multivariate data analysis models. For each model, issues covered include the nature of the model and its assumptions; situations in which the model might be applied; diagnostics for model adequacy; estimation and inference; interpretation; the use of the software package SPSS for model-fitting. Models will be selected from multiple regression; logistic regression; an introduction to path analysis and structural equation modelling; multivariate analysis of variance and discriminant analysis; multilevel models; principal components analysis and factor analysis; models for multivariate categorical data; cluster analysis and multidimensional scaling. The first two lectures/tutorials of the subject will be taught on one day (six hours) in Orientation Week, thereby allowing students time to work on assessment tasks at the beginning of the semester.
Learning Outcomes:	This subject aims to: # develop an appreciation of the role and methods for exploratory analysis of multivariate observations such as factor analysis; and multidimensional scaling and clustering # develop an understanding of the forms and application of some major multivariate techniques including multivariate analysis of variance and variants, multilevel models**,** methods for categorical data analysis and structural equation modelling # develop a critical understanding of multivariate methods for data analysis, particularly in relation to applicability, interpretation and inference # develop skill in the use of the statistical software program SPSS for multivariate analysis
Assessment:	A written report of no more than 1000 words (20%) to be submitted early in the semester. A written report of no more than 1500 words (30%) to be submitted in mid-semester. And an

	examination of no more than two hours (50%) during the examination period. Each piece of assessment must be completed (hurdle requirement). Attendance at 80% or more of the laboratory classes is a hurdle requirement. In case of failure to meet the hurdle requirement, additional work will be required before a passing grade can be awarded.
Prescribed Texts:	There are no prescribed texts
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completion of this subject, students should have a greater ability to: design research studies requiring complex quantitative observations; present and analyse complex quantitative information; and critically evaluate and interpret complex quantitative information.
Related Course(s):	Postgraduate Diploma in Psychology
Related Majors/Minors/ Specialisations:	Psychology