



The University of Southern Queensland

## Course specification

The current and official versions of the course specifications are available on the web at <http://www.usq.edu.au/coursespecification/current>.  
Please consult the web for updates that may occur during the year.

### Description: Multivariate Statistics A

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
PSY	4010	86265	1, 2009	EXT	0.50	Toowoomba

<b>Academic group:</b>	FOSCI
<b>Academic org:</b>	FOS005
<b>Student contribution band:</b>	1
<b>ASCED code:</b>	090701

### STAFFING

Examiner: Jeff Patrick  
Moderator: Nola Passmore

### REQUISITES

Pre-requisite: Students must be enrolled in Program BSCH in Psychology major (12302) or in one of the following Programs: BPSH or BPSY

### RATIONALE

Students undertaking fourth year study in Psychology need to be able to evaluate a variety of statistical designs in published research. A large portion of published studies in Psychology use multivariate statistics. This course encourages students to develop both a practical and theoretical understanding of these statistical techniques, which will allow them to evaluate existing research and apply these insights to their own research. This course also forms a major foundation for student research at Masters and PhD level, and for the data analytic aspects of professional elective courses.

### SYNOPSIS

The course reviews key aspects of research methodology and elementary statistics covered in undergraduate methodology courses, and uses this as a basis for exploring common multivariate statistical techniques. The techniques are covered in readings and learning activities. Students are also required to carry out analyses (including the evaluation of parametric assumptions) using statistical software. Students are required to demonstrate their practical competence in assignments and are encouraged to participate in ongoing email discussion forums designed to assist their learning. This course is also supported by two residential workshops for Toowoomba students and weekly classes for Springfield students, during the semester where students can gain a further understanding of multivariate statistics and its role in contemporary research.

### OBJECTIVES

On successful completion of this course students will be able to:

1. identify appropriate statistical techniques to address various kinds of research questions (assessed in both assignments);
2. use SPSS to explore, visualise and evaluate typical univariate and multivariate research data and draw appropriate conclusions from the program output (assessed in both assignments);
3. demonstrate competence in the reporting of multivariate findings (assessed in both assignments).

## TOPICS

	Description	Weighting (%)
1.	Review of Statistical Power.	5.00
2.	Multiple Regression and assessing mediation.	45.00
3.	Exploratory Factor Analysis - principal component extraction method.	45.00
4.	Internal Consistency - Cronbach's alpha.	5.00

## TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

SPSS Graduate Pack or Student Version 13 or higher. (Students should discuss with supervisor of Honours Project before purchase). For Toowoomba students this is an optional purchase. However, for non-Toowoomba students this is a mandatory purchase.

Field, A 2009, *Discovering statistics using SPSS*, 3rd edn, Sage, Thousand Oaks, CA.  
(ISBN 0761944524)

## REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Meyers, L, Gamst, G & Guarino, A 2006, *Applied Multivariate Research: design and interpretation*, Sage, Thousand Oaks, CA.  
(ISBN 1412904129)

Tabachnick, BG & Fidell, LS 2001, *Using Multivariate Statistics*, 4th edn, Allyn & Bacon, Boston.  
(ISBN 0321056779)

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessments	20.00
Private Study	39.00
Residential Schools	16.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	100.00	50.00	10 Apr 2009
ASSIGNMENT 2	100.00	50.00	05 Jun 2009

## IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:  
Attendance at the two on-campus workshops is compulsory for Toowoomba students. It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:  
To satisfactorily complete an individual assessment item a student must achieve at least 50% of the marks or a grade of at least C-. (Depending upon the requirements in Statement 4 below, students may not have to satisfactorily complete each assessment item to receive a passing grade in this course.)
- 3 Penalties for late submission of required work:  
If students submit assignments after the due date without (prior) approval of the examiner then a penalty of 5% of the total marks gained by the student for the assignment may apply for each working day late up to ten working days at which time a mark of zero may be recorded. No assignments will be accepted after model answers have been posted.
- 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
- 5 Method used to combine assessment results to attain final grade:  
The final grades for students will be assigned on the basis of the weighted aggregate of the marks obtained for each of the summative assessment items in the course.
- 6 Examination information:  
There are no examinations in this course
- 7 Examination period when Deferred/Supplementary examinations will be held:  
As there are no examinations in this course, there will be no deferred or supplementary examinations.
- 8 University Regulations:

Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL <http://www.usq.edu.au/corporateservices/calendar/part5.htm> or in the current USQ Handbook.

## **ASSESSMENT NOTES**

- 9 Students may be required to provide a copy of assignments submitted for assessment purposes. Such copies should be despatched to the USQ within 24 hours of receipt of a request to do so.
- 10 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner.
- 11 In accordance with University Policy, the Examiner may grant an extension of the due date of an assignment in extenuating circumstances.
- 12 The Faculty will NOT accept submission of assignments by facsimile.
- 13 Students will require access to email and internet access to USQConnect for this course.
- 14 Students who have undertaken all of the required assessments in a course but who have failed to meet the minimum requirements for a passing grade within the normally prescribed time may be awarded the temporary grade: IM(Incomplete - Make up). An IM grade will only be awarded when, in the opinion of the examiner, a student will be able to meet the minimum requirements for a passing grade after a period on non-directed personal study.