Description: Multivariate Statistics B

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
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<tr>
<td>PSY</td>
<td>4011</td>
<td>34468</td>
<td>2, 2004</td>
<td>ONC</td>
<td>0.50</td>
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Academic group: FOSCI
Academic org: FOS005
Student contribution band: 1
ASCED code: 090701

STAFFING
Examiner: Jeff Patrick
Moderator: Gerry Fogarty

REQUISITES
Pre-requisite: PSY4010

OTHER-REQUISITES
Only available to students enrolled in the BSc (Hons) in Psychology major.

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
This course extends on the techniques covered in PSY4010 Multivariate Statistics A and assumes mastery of that material. The material in this course are covered in readings, learning activities, and recorded lectures. 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 2 residential workshops 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. state and use the rules for path tracing;
2. explain the differences between direct, indirect, spurious and unanalysed paths;
3. explain the role of latent variables in path models;
4. discuss the role of exploratory factor analysis;
5. carry out factor analyses using a variety of factoring techniques and rotations;
6. interpret the output of SPSS factor analysis;
7. discuss the use of factor techniques and reliability analysis in the development of measurement scales;
8. assess the dimensionality and reliability of measurement scales.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>Analysis of Variance - factorial designs</td>
<td>40.00</td>
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<tr>
<td>Factor Analysis - understanding the model - basic applications - factorability of a matrix - factor rotation</td>
<td>40.00</td>
</tr>
<tr>
<td>Cluster Analysis</td>
<td>20.00</td>
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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 Licence

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.

**STUDENT WORKLOAD REQUIREMENTS:**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Assessment</td>
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<tr>
<td>Directed Study</td>
<td>15.00</td>
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<tr>
<td>Examinations</td>
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<td>Laboratory or Practical Classes</td>
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<tr>
<td>Lectures</td>
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<tr>
<td>Private Study</td>
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<td>Tutorial</td>
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**ASSESSMENT DETAILS**

<table>
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<tr>
<th>Description</th>
<th>Marks out of</th>
<th>Wtg(%)</th>
<th>Due date</th>
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<tr>
<td>ASSIGNMENT 1</td>
<td>100.00</td>
<td>30.00</td>
<td>30 Aug 2004</td>
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<tr>
<td>ASSIGNMENT 2</td>
<td>100.00</td>
<td>30.00</td>
<td>11 Oct 2004</td>
</tr>
<tr>
<td>3HR PTA REST EX (MULT CHOICE)</td>
<td>100.00</td>
<td>15.00</td>
<td>END S2 (see note 1)</td>
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<tr>
<td>3HR PTB REST EX (COMP &amp; ESSAY)</td>
<td>100.00</td>
<td>25.00</td>
<td>END S2 (see note 2)</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Examination dates will be available during the Semester. Please refer to the examination timetable when published.
2. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

**IMPORTANT ASSESSMENT INFORMATION**

1. Attendance requirements:
   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 complete assessment items satisfactorily, students must: gain at least 40% in 
each assignment, 60% in the assignments overall, 50% in the multiple choice 
section of the examination, 40% in the computation/essay section of the 
examination.

3 Penalties for late submission of required work:
Students may submit individual assignment work up to 2 weeks beyond the due 
date without prior notice. However, individual assignments submitted after the due 
date may not be returned in time to assist in the following assessment. Individual 
assignments submitted more than 2 weeks after the due date will not be assigned 
a mark as solutions may already have been distributed.

4 Requirements for student to be awarded a passing grade in the course:
To be certain of a passing grade in this course, students must satisfactorily complete 
their assessment items and gain 60% in the course assessment overall.

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 (or grades) obtained for each of the summative assessment items in 
the course.

6 Examination information:
Restricted Examination: Candidates will be allowed access only to specific materials 
in a restricted examination. The only materials that candidates may use in the 
restricted examination for this course are: (a) writing materials (non-electronic and 
free from material which could give the student an unfair advantage in the 
examination); (b) With the approval of the examiner, candidates may take an 
appropriate non-electronic translation dictionary into the examination. This will 
be subject to perusal and may be removed from the candidate's possession until 
appropriate disciplinary action is completed if found to contain material that could 
give the candidate an unfair advantage.

7 Examination period when Deferred/Supplementary examinations will be held:
Any supplementary or deferred examinations for this course will be held during 
the examination period at the end of the semester of the next offering of this course.

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 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.

10 Students must retain a copy of each item submitted for assessment. This must be 
produced within 48 hours if required by the Examiner.

11 The examiner may grant an extension of the due date of an assignment in 
extenuating circumstances.
12 Students who obtain an overall passing mark, but who do not perform satisfactorily in an examination, may, at the discretion of the examiner, be granted a supplementary examination. Students will be granted a deferred examination only if they perform satisfactorily in all other assessment items.