Description: Decision Support Tools

<table>
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<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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Academic Group: FOBUS
Academic Org: FOB002
HECS Band: 2
ASCED Code: 020307

STAFFING
Examiner: Dom Pensiero
Moderator: Mehryar Nooriafshar

RATIONALE
Managers receive vast quantities of data, translate it to information, disseminate this within the organisation, analyse it, and interpret the outcomes in order to make informed and balanced decisions. This course is designed to improve the quality of management decision-making by the introduction of relevant statistical, operations research and operations management techniques. These techniques aim to bridge the gap between the theory and practical application of quantitative techniques as decision support tools.

SYNOPSIS
The course aims to enhance the ability of managers to make decisions by formulating real world problems, often featuring ambiguity, in a manner which allows the application of quantitative management tools. The generalised approach of problem formulation, modelling, solution, interpretation and implementation will be addressed. The course will deal with the issues of data reduction, inference testing, forecasting, decision analysis, scheduling, location and layout decisions, Just-In-Time, project management and quality management.

OBJECTIVES
On successful completion of this course students should be able to:

- Assess, organise, summarise, present and interpret data for decision-making purposes;
- Demonstrate a systematic approach to decision-making by applying decision theory to business situations, determining how much additional data is required, and assessing whether it is cost effective to do so;
• Determine the relevant simple regression and correlation coefficients for a data set reflecting a given business situation and interpret the validity of the results obtained models;
• Select the forecasting tools applicable to a given situation, choose the most relevant, apply, and assess the validity and limitations of the outcomes;
• Analyse and apply appropriate hypothesis testing procedures for given data sets, and their assess applications to business problems;
• Understand and describe the relevant tools available in establishing and managing a quality management system; Apply these tools to the analysis of organisational systems seeking to control quality;
• Understand and Describe the importance of project management in a wider managerial context, apply simple project principles to given cases and interpret the outcomes;
• Apply and selected qualitative and quantitative managerial tools to scheduling, location and layout problems;
• Apply knowledge based (expert) systems to location and layout problems.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tr>
<td>1. Data Reduction</td>
<td>10.00</td>
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<tr>
<td>2. Use of Continuous Distributions</td>
<td>15.00</td>
</tr>
<tr>
<td>3. Regression and Correlation</td>
<td>15.00</td>
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<td>4. Decision Theory</td>
<td>10.00</td>
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<td>5. Business Forecasting</td>
<td>15.00</td>
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<td>6. Selected Management Decision Tools</td>
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TEXT and MATERIALS required to be PURCHASED or ACCESSED:

Books can be ordered by fax or telephone. For costs and further details use the ‘Book Search’ facility at http://bookshop.usq.edu.au by entering the author or title of the text.


The three recommended texts will be available as a shrinkwrap package from the USQ bookshop at a discounted price for students. Purchases of individual texts can be negotiated through the bookshop or publisher but at a higher price.


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>
<td>20</td>
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<tr>
<td>Directed Study</td>
<td>52</td>
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<td>Private Study</td>
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ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
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<tr>
<td>ASSIGNMENT</td>
<td>40.00</td>
<td>40.00</td>
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<td>3 HOUR OPEN EXAMINATION</td>
<td>60.00</td>
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NOTES:

- The examination is scheduled to be held in the end-of-semester examination period. Students will be advised of the official examination date after the timetable has been finalised.
OTHER REQUIREMENTS

1 To be assured of obtaining a passing grade (C) students must pass the assignment, (ie at least 20/40) AND must pass the final examination (ie at least 30/60) AND achieve a composite (aggregated score) of 50% or more in the course. To be assured of obtaining a credit grade (B) students must pass the assignment, (ie at least 20/40) AND must pass the final examination (ie at least 30/60) AND achieve a composite (aggregated score) of 65% or more in the course. To be assured of obtaining a distinction grade (A) student must pass the assignment, (ie at least 20/40) AND pass the final examination (ie at least 30/60) AND achieve a composite (aggregated score) of 75% or more in the course. To be assured of obtaining a High Distinction grade (HD) students must pass the assignment, (ie at least 20/40) AND must pass the final examination (ie at least 30/60) AND achieve a composite (aggregated score) of 85% or more in the course. Final grades for the course will be determined by considering (a) the mark obtained for the assignment and (b) the mark obtained in the examination.

2 The due date of an assignment is the date by which a student must despatch the assignment to the University, and is normally that defined in the relevant course specification. The onus is on the student to provide, if requested, proof of date of despatch.

3 Students should organise their affairs to ensure that they meet due dates for all assignments. Extensions will be granted only under exceptional extenuating circumstances, normally involving a significant medical condition.

4 Students may apply for an assignment extension by including their application with the submitted assignment after the due date. Such applications should include supporting documentary evidence. The authority for granting extensions rests with the relevant Course Leader. Extensions will not be granted by phone, fax, email etc.

5 All assignments despatched after due dates without appropriate extension approvals or after approved extension dates will be penalised up to a maximum of 20% of the assigned mark per work day.

6 Students must retain a copy of all assignments which must be provided if/when required by the Course Leader.

7 Course weightings of topics should not be interpreted as applying to the number of marks allocated to questions testing those topics in an examination paper.

8 Deferred examinations are considered on a case by case basis and are dependent on the University regulations governing the awarding of deferred examinations.

9 Supplementary examinations may be awarded to students who have passed the assignment, (ie at least 20/40) and who have achieved a composite score of 50% or more in the course but who have failed the final examination by less than 5% of the examination mark (ie a mark of 27/60 or above is required in the final examination to be considered for a supplementary examination provided the student has passed the assignment, and achieved 50% or more in the aggregated score.)