Description: Engineering Management Science

Subject | Cat-Nbr | Class | Term | Mode | Units | Campus
--------|---------|-------|------|------|-------|-------
ENG      | 4004    | 14612 | 2, 2002 | WEB  | 1.00  | TW MBA

Academic Group: FOENS
Academic Org: FOENSV
HECS Band: 2
ASCED Code: 039999

STAFFING
Examiner: Mick Morgan
Moderator: Bob Fulcher

SYNOPSIS
Management science techniques are used extensively in modern engineering industry to plan, organise and control construction and manufacturing. Management science is also referred to as ‘operations research’ and utilises quantitative analysis to assist with the decision making process. In this course several analytical techniques will be investigated including network analysis, project management, linear programming, simulation and quality control. Many of these quantitative methods are used, not only in engineering production and project work, but also in the management of other processes.

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

- utilise CPA management techniques to plan, analyse, schedule and control engineering and surveying projects;
- use a variety of operational research techniques to analyse complex management problems and to synthesise and evaluate possible solutions to these problems;
- analyse production and supply in terms of various inputs, types of costs, break even analysis, and the effect of time on the value of money.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Network analysis</td>
<td>40.00</td>
</tr>
<tr>
<td>2. Programming tech</td>
<td>15.00</td>
</tr>
<tr>
<td>3. Simulation</td>
<td>10.00</td>
</tr>
</tbody>
</table>
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>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>12</td>
</tr>
<tr>
<td>Directed Study</td>
<td>63</td>
</tr>
<tr>
<td>Examinations</td>
<td>3</td>
</tr>
<tr>
<td>Private Study</td>
<td>77</td>
</tr>
</tbody>
</table>

ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSIGNMENT 1</td>
<td>100.00</td>
<td>10.00</td>
<td>Y</td>
<td>23 Aug 2002</td>
</tr>
<tr>
<td>ASSIGNMENT 2</td>
<td>100.00</td>
<td>10.00</td>
<td>Y</td>
<td>13 Sep 2002</td>
</tr>
<tr>
<td>ASSIGNMENT 3</td>
<td>100.00</td>
<td>10.00</td>
<td>Y</td>
<td>11 Oct 2002</td>
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<tr>
<td>2.5 HOUR OPEN EXAMINATION</td>
<td>700.00</td>
<td>70.00</td>
<td>Y</td>
<td>END S2</td>
</tr>
</tbody>
</table>

NOTES:

4. Student Administration will advise students of the dates of their examinations during the semester.
OTHER REQUIREMENTS

1. Students must obtain 50% of marks available for the final examination and at least 50% of the aggregated marks to successfully complete the course. There is no requirement to obtain a minimum mark in any of the assignments.

2. The due date for an assignment is the date by which a student must submit the assignment to the USQ. The onus is on the student to provide proof of the submit date, if requested by the Examiner.

3. Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the Examiner.

4. Because it is normal practice to release model answers promptly after the due date, the penalty for late submission of any assessment for this course is normally the loss of all marks for the assessment.

5. In the event that a due date for an assignment falls on a local public holiday in their area, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.

6. The Faculty of Engineering and Surveying will NOT accept submission of hand written or typed assignments by facsimile, e-mail or computer diskette. Students in remote locations who do not have regular access to postal services may be given special consideration.

7. A minimum standard of communication skills must be demonstrated in order for a passing grade to be achieved.

8. The final grades for students will be assigned on the basis of the aggregate of the marks obtained for each of the assessments in the course.

9. Students MUST bring their study book to the examination. Tables contained in the study book will be needed in the examination.

10. An open examination indicates that the candidate may have access to any material during the examination except the following: electronic communication devices, bulky materials, devices requiring mains power and material likely to disturb other students.

11. The Faculty of Engineering and Surveying does not offer supplementary examinations.

12. Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course 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 achieve the remaining objectives of the course after a period of non directed personal study.

13. Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded IDS (Incomplete - Deferred Examination; IDM (Incomplete Deferred Make-up; IDSM (Incomplete Deferred Examination and Make-up).