Description: Engineering Management

<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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<tbody>
<tr>
<td>ENG</td>
<td>3003</td>
<td>62404</td>
<td>1, 2007</td>
<td>ONC</td>
<td>1.00</td>
<td>Toowoomba</td>
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Academic group: FOENS
Academic org: FOENSV
Student contribution band: 2
ASCED code: 039999

STAFFING
Examiner: Bob Fulcher
Moderator: Ron Ayers

OTHER REQUISITES
Recommended prior or concurrent study: ENG2002

SYNOPSIS
Engineers have a sound educational base in the theory and application of technology, and they are well placed to play important roles as managers in manufacturing, construction and other engineering industries. Many engineers take on managerial roles during their careers, some within a short time of graduation. It is therefore essential that graduate engineers have an understanding of the basic principles of management and their application in engineering organisations. Graduates also need an appreciation of the social environment within which they will practice, particularly those aspects of the law and ethics pertaining to the engineering profession.

OBJECTIVES
The course objectives define the student learning outcomes for a course. The assessment item(s) that may be used to assess student achievement of an objective are shown in parenthesis. On completion of this course, students should be able to:

1. review and analyse the role of engineers as managers (Assignment 1, Assignment 2, Exam);
2. understand the planning process and distinguish the different types of organisational planning (Assignment 1, Exam);
3. evaluate the various forms of organisational structure, the principles of organisational design, and the role and functions of human resource management (Assignment 1, Exam);
4. evaluate the major leadership styles and the characteristics and methods of effective leadership (Exam);
5. evaluate the characteristics of effective management control, including elements of operations and financial control (Assignment 1, Assignment 2, Exam);
6. know and apply the fundamentals of contract law to simple contract cases; describe the common types of contracts used in engineering; and describe the typical documents contained within an engineering contract (Assignment 2, Exam);

7. select and justify procedures which may be used to achieve a resolution between conflicting parties in a contract (Exam);

8. distinguish and discuss the social and legal responsibilities relating to product liability and professional negligence (Assignment 2, Exam);

9. determine appropriate methods of protecting intellectual property for specific situations (Assignment 2, Exam);

10. review the Australian industrial relations system and discuss how industrial grievances may be resolved (Exam);

11. identify and contrast the purposes and structures of the learned and industrial bodies within the Australian engineering profession (Exam);

12. apply the concept of ethics, and select and justify suitable ethical guidelines for specific situations, using as a basis the Institution of Engineers, Australia, “Code of Ethics” (Assignment 2, Exam);

13. understand and apply workplace health and safety, and risk management practices (Exam).

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>1. Introduction to Engineering Management</td>
<td>10.00</td>
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<tr>
<td>2. Planning and Decision Making</td>
<td>10.00</td>
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<td>3. Organising Process</td>
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<td>4. Leading Process</td>
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<tr>
<td>5. Controlling Process</td>
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<td>6. Law, Contracts and Engineering Contracts</td>
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<td>7. Ethics</td>
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<td>8. Product Liability and Professional Negligence</td>
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<td>9. Resolution of Technical Disputes</td>
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<td>10. Protection of Intellectual Property</td>
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<td>11. Industrial Conciliation and Arbitration</td>
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<td>12. Structure of the Engineering Profession in Australia</td>
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<tr>
<td>13. Workplace Health and Safety, and Risk Management</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).

ENG3003 Engineering management external study package, USQ Publication, Toowoomba.
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.


Johnston, Gostelow & Jones 1999, Engineering and society: an Australian perspective, 2nd edn, Longman,

Kinsky, R 1994, Engineering management, Thomas Nelson, Australia.


STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
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<td>Examinations</td>
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<td>Lectures</td>
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<td>Private Study</td>
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<td>Tutorials</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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<tbody>
<tr>
<td>CASE STUDY 1 M'MENT PRINCIPLES</td>
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<tr>
<td>CASE STUDY 2 ENG PRACTICE</td>
<td>300.00</td>
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<tr>
<td>PART B OF 3 HOUR CLOSED EXAM</td>
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<td>20.00</td>
<td>END S1</td>
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NOTES

1. The 3 hour examination is in two parts. Part A requires an Examination Answer Sheet. Part B requires an Answer Booklet. Student Administration will advise students of the dates of their examinations during the semester.
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 satisfactorily complete an assessment item a student must achieve at least 50% of the
   marks or a grade of at least C-. Students do not have to satisfactorily complete each
   assessment item to be awarded a passing grade in this course. Refer to Statement 4 below
   for the requirements 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 then a penalty of
   10% of the total marks available for the assignment will apply for each working day late.

4 Requirements for student to be awarded a passing grade in the course:
   To be assured of receiving a passing grade a student must achieve at least 30% in each of
   the weighted assessment items, achieve at least 50% in the examination and 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 (or grades) obtained for each of the summative assessment items in the course.

6 Examination information:
   In a Closed Examination, candidates are allowed to bring only writing and drawing
   instruments into the examination.

7 Examination period when Deferred/Supplementary examinations will be held:
   Any Deferred or Supplementary 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

1 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.

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

3 In accordance with University's Assignment Extension Policy (Regulation 5.6.1), the
   examiner of a course may grant an extension of the due date of an assignment in extenuating
   circumstances.

4 The Faculty will normally only accept assessments that have been written, typed or printed
   on paper-based media.

5 The Faculty will NOT accept submission of assignments by facsimile.
6 Students who do not have regular access to postal services or who are otherwise disadvantaged by these regulations may be given special consideration. They should contact the examiner of the course to negotiate such special arrangements.

7 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.

8 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 one of the temporary grades: IM (Incomplete - Make up), IS (Incomplete - Supplementary Examination) or ISM (Incomplete - Supplementary Examination and Make up). A temporary 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.

9 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); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).

10 This is a communication benchmark course and a major component of the assessment of this course will be associated with the demonstration of communication skills.