



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: Engineering Management

| Subject | Cat-nbr | Class | Term | Mode | Units | Campus |
|---------|---------|-------|---------|------|-------|-----------|
| ENG | 3003 | 86328 | 1, 2009 | ONC | 1.00 | Toowoomba |

| | |
|-----------------------------------|--------|
| 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

On completion of this course students will 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

| Description | Weighting (%) |
|--|---------------|
| 1. Introduction to Engineering Management | 10.00 |
| 2. Planning and Decision Making | 10.00 |
| 3. Organising Process | 10.00 |
| 4. Leading Process | 10.00 |
| 5. Controlling Process | 10.00 |
| 6. Law, Contracts and Engineering Contracts | 10.00 |
| 7. Ethics | 5.00 |
| 8. Product Liability and Professional Negligence | 5.00 |
| 9. Resolution of Technical Disputes | 5.00 |
| 10. Protection of Intellectual Property | 5.00 |
| 11. Industrial Conciliation and Arbitration | 5.00 |
| 12. Structure of the Engineering Profession in Australia | 5.00 |
| 13. Workplace Health and Safety, and Risk Management | 10.00 |

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).

ENG3003 Engineering management: external study package, University of Southern Queensland, Toowoomba.

Davidson, P et al 2009, *Management*, 4th edn, John Wiley, Australia.
(Australasian edition)

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.

Bartol, Martin, Tein & Matthews 2004, *Management: a pacific RIM focus*, 4th edn, McGraw-Hill Book Co, North Ryde, NSW.

Beder, S 1998, *The new engineer*, MacMillan Education, Melbourne.

Johnston, Gostelow & Jones 1999, *Engineering and society: an Australian perspective*, 2nd edn, Harper Educational Pymble, Longman.

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

Samson, D 2003, *Management for engineers*, 3rd edn, Prentice Hall/Pearson Education, French's Forest, NSW.

STUDENT WORKLOAD REQUIREMENTS

| ACTIVITY | HOURS |
|----------------|-------|
| Assessments | 80.00 |
| Directed Study | 14.00 |
| Examinations | 2.00 |
| Lectures | 32.00 |
| Private Study | 11.00 |
| Tutorials | 16.00 |

ASSESSMENT DETAILS

| Description | Marks out of | Wtg (%) | Due date |
|--------------------------------|--------------|---------|------------------------|
| CASE STUDY 1 M'MENT PRINCIPLES | 200.00 | 20.00 | 06 Apr 2009 |
| CASE STUDY 2 ENG PRACTICE | 300.00 | 30.00 | 18 May 2009 |
| PART A OF 2 HOUR CLOSED EXAM | 300.00 | 30.00 | END S1 (see note 1) |
| PART B OF 2 HOUR CLOSED EXAM | 200.00 | 20.00 | END S1 |

NOTES

1. The 2 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 extenuating circumstances then a penalty of 5% of the assigned mark may apply for each working day late up to a maximum of ten working days at which time a mark of zero can be recorded for that assignment.
 - 4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade in a course a student must obtain at least 50% of the total weighted marks 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.