

Course

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1. S a c a c a:

Name:

Summary of the course

MMAN4400 Engineering Management presents four subject areas, considered to be critical in terms of managing and leading engineering operations. They are:

- x Issue analysis
- x Investment analysis and engineering economy
- x Costing and operations analysis
- x Quality management, including design

Within each subject area the course will cover many conceptual and analytical techniques, all supporting fact- and data-based analysis and decision making with the aim of improved product and process performance, economy and sustainability. The course consists of lectures, demonstration sessions and assignment work. There will be three quizzes and a major case study. There will be no final exam.

Considering the diverse nature of subject areas, there really is no single, suitable textbook available that covers all these areas and therefore a custom textbook, consisting of a compilation of outstanding chapters from three different textbooks has been created with the assistance of the McGraw-Hill company. Our campus bookstore will have this book for you to purchase. It is important you do so, as this book will be an excellent reference for you for years to come. Additional lecture notes are also posted on Moodle.

Aims of the course

This course is designed to help you to learn how to manage the operations in organisations and also to build a business or commercial case for making engineering related decisions, such as investment in plant, equipment and processes. Although the main emphasis will be on product and process, coP <</MCID j-- [(ns)-2(i)2.6(n orD j-- [.4(i)2.7(l)-8.3(ea)10.6(t)--- [(ns)-e,)4.3(

decisions. It is the purpose of MMAN4400 to equip you with enough knowledge and information to become a global manager, indeed a leader, with the ability to apply analytical methods and quality processes to create short and long term value for your organization, your customers, and the community, in other words, all stakeholders.

Some of you will follow a 'traditional' engineering career, whereas others will branch out into

Quiz 2 (online)	Multiple choice and short answer questions	15%	2 and 3	Material from week 5 to week 8 (inclusive)	Week 9 23/09/16	Week 10
Quiz 3 (online)	Multiple choice and short answer questions	10%	4	Material from week 9 to week 12 (inclusive)	Week 13 28/10/16	Week 14
Assignment progress evaluation 1	500 words per team	5%	1	Material from week 1 to week 4 (inclusive)	Week 4 19/08/16 5pm on Moodle	In-class feedback
	500 words	5%	also 2 and 3	Material from week 5 to week 8 (inclusive)	Week 8 16/09/16 5pm on Moodle	

- x Correct referencing in accordance with the prescribed citation and style guide
- x Appropriateness of analytical techniques used
- x Accuracy of numerical answers
- x All working shown
- x Use of diagrams, where appropriate, to support or illustrate the calculations
- x Use of graphs, where appropriate, to support or illustrate the calculations
- x Use of tables, where appropriate, to support or shorten the calculations
- x Neatness

Record of meetings

Student teams are expected to meet regularly (at least once a week) to discuss the progress of their assignment. Each team meeting should be chaired by the chairman and the weekly progress needs to be recorded in a properly formatted minute (minute template will be provided on Moodle). The minute needs to be uploaded on Moodle weekly so the course instructor can assess the team progress on regular basis.

Team must show in their weekly minutes:

- x Timely interaction with your team members.
- x

Examinations

You must be available for all tests/quizzes and examinations. There is no final examination for this course.

For further information on exams, please see the [Exams](#) section on the intranet.

Online Quiz

Two quizzes (quiz 2 and 3) will be conducted online via Moodle. The format of the quiz is similar to those that are done on paper, which consists of multiple choice questions, calculations and short answer questions. The link to the quiz will be available on Monday of the quiz week; the link will remain open until 5pm, Friday of the same week. Each student gets ONE attempt to complete the quiz within a set time limit. The feedback of the quiz will be provided after the quiz is closed. Note that the quiz questions are randomly drawn from a question bank with similar theme and difficulty, numerical questions may appear with random input numbers, so students will not expect to get the exact same question. Students are expected to complete the quiz individually.

Calculators

You will need to provide your own calculator, of a make and model approved by UNSW, for the examinations. The list of approved calculators is shown at student.unsw.edu.au/exam-approved-calculators-and-computers

It is your responsibility to ensure that your calculator is of an approved make and model, and to obtain an “Approved” sticker for it from the School Office or the Engineering Student Centre prior to the examination. Calculators not bearing an “Approved” sticker will not be allowed into the examination room.

Special consideration and supplementary assessment

For details of applying for special consideration and conditions for the award of supplementary assessment, see the School [intranet](#), and the information on UNSW’s [Special Consideration page](#).

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The prescribed textbook for this course is:

MMAN4400 ENGINEERING MANAGEMENT – McGraw-Hill, 2013. ISBN-13: 978-1-12-179435-1.

You can purchase the textbook from UNSW bookshop. Alternatively, you can purchase the

<http://www.mheducation.com.au/9781121845831-aus-cust-ebook-engineering-management-van-voorthuysen>

You can find a limited number of the prescribed textbook from the UNSW library. You may browse for the location and availability of the textbook via:

<http://info.library.unsw.edu.au/web/services/services.html>

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Program Intended Learning Outcomes	
PE1: Knowledge and Skill Base	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals
	PE1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing
	PE1.3 In-depth understanding of specialist bodies of knowledge
	PE1.4 Discernment of knowledge development and research directions
	PE1.5 Knowledge of engineering design practice
	PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice
PE2: Engineering Application Ability	PE2.1 Application of established engineering methods to complex problem solving
	PE2.2 Fluent application of engineering techniques, tools and resources
	PE2.3 Application of systematic engineering synthesis and design processes
	PE2.4 Application of systematic approaches to the conduct and management of engineering projects
PE3: Professional and Personal Attributes	PE3.1 Ethical conduct and professional accountability
	PE3.2 Effective oral and written communication (professional and lay domains)
	PE3.3 Creative, innovative and pro-active demeanour
	PE3.4 Professional use and management of information
	PE3.5 Orderly management of self, and professional conduct
	PE3.6 Effective team membership and team leadership