UNSW SYDNEY | Australia's Global University

Mechanical and Manufacturing Engineering

Course Outline

Term 1 2019

MANF6860

STRATEGIC MANUFACTURING MANAGEMENT

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1. Staff contact details

Contact details and consultation times for course convenor

Name: Prof Sami Kara
Office location: Ainsworth Building, 301A
Tel: (02) 9385 5757
Email: S.Kara@unsw.edu.au
Moodle: https://moodle.telt.unsw.edu.au/login/index.php

Consultation concerning this course is available on Wednesday 1300 –1800 whenever the lecturer is not otherwise engaged.

Contact details and consultation times for additional lecturers/demonstrators/lab staff

Name: Dr Shiva Abdoli (Demonstrator)
Office Location: 301, Ainsworth Building
Tel: (02) 9385 6851
Email: s.abdoli@unsw.edu.au

Please see the course Moodle.

2. Important links

- Moodle
- Lab Access
- Computing Facilities
- Student Resources
- Course Outlines
- Engineering Student Support Services Centre

3. Course details

Credit points

This is a 6 unit-of-credit (UoC) course, and involves 3 hours per week (h/w) of face-to-face contact.

Contact hours

	Day	Time	Location
Lectures	Wednesday	6pm - 8pm	New South Global Theatre (K-G14-127)
Demonstrations	Wednesday	8pm – 9pm	New South Global Theatre (K-G14-127)

Summary and Aims of the course

This course introduces students to the strategic aspects of manufacturing management, in terms of an analysis of the environment in which manufacturing companies compete. In particular, it explores the relation of manufacturing strategy to business, financial and marketing strategies.

This course aims to provide an introduction to the strategic aspects of manufacturing management, in terms of an analysis of the environment in which manufacturing companies compete, the various dimensions of competitiveness, and how individual companies can maximise effective utilisation of their assets, and hence increase their overall ability to compete.

Student learning outcomes

This course is designed to address the learning outcomes below and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The full list of Stage 1 Competency Standards may be found in Appendix A.

After successfully completing this course, you should be able to:

Learning Outcome		**EA Stage 1 Competencies**
1.	Understand the nature of manufacturing strategy and its relation to corporate strategy	PE1.3, PE1.5, PE2.3, PE3.6
2.	Develop a systematic plan for strategy implementation	PE1.3, PE1.5, PE2.3, PE3.6
3.	Understand the different types of globalised manufacturing and their implications	PE1.3, PE1.5, PE2.3, PE3.6
4.	Appreciate the importance of linking performance monitoring to manufacturing strategy	PE1.3, PE1.5, PE2.3, PE3.6

4. Teaching strategies

The subject will be presented in the form of lectures and tutorials. Each weekly class will consist of an hour of a tutorial example or case study related to the material covered in the previous lecture in the first hour, followed by 1-1.5 hrs lecture.

5. Course schedule

Week	Topic	Demonstration	Location	Suggested Readings
1	The Nature and Role of Manufacturing Strategy	None	New South Global Theatre (K-G14-127)	Unit 1 lecture notes and reading material on Moodle
2	Porter's Model and the Value Chain	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 2 lecture notes and reading material on Moodle
3	Competitive Positioning	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 3 lecture notes and reading material on Moodle
4	Product Technology and Process Choice	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 4 lecture notes and reading material on Moodle
5	Process Positioning and Core Competencies	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 5 lecture notes and reading material on Moodle
6	Capacity Strategies	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 6 lecture notes and reading material on Moodle
7	Focused Manufacturing	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 7 lecture notes and reading material on Moodle
8	Experience Curve, Efficiency and Productivity	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 8 lecture notes and reading material on Moodle
9	Global Manufacturing and the Extended Enterprise	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 9 lecture notes and reading material on Moodle
10	Strategy Formulation, Implementation, and Linking Performance to Manufacturing Strategy	Review of previous lecture and exercises	New South Global Theatre (K-G14-127)	Unit 10 lecture notes and reading material on Moodle

6. Assessment

Assessment overview

Assessment	Group Project?	If Group, # Students per group	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
Assignment 1	No	N/A	Max 3000 words	30%	1 and 2	Lecture materials from week 1-3	Will be released on the 27th February and submission on the 13th March via Moodle	Midnight 18th March	Two weeks after submission
Assignment 2	No	N/A	Max 4000 words	30%	1 and 2	Lecture material from weeks 4-7	Will be released on the 13th March and submission on the 27th March via Moodle	Midnight 5th April	Two weeks after the submission
Integrated Case Study Final Report	Yes	5	Max 6000 words	40%	1, 2, 3 and 4	All course content from weeks 1-10 inclusive.	Will be released on the 10th April and submission on the 8th May via Moodle	Midnight, 13th May	Two weeks after the submission

Assignments

The assessment tasks will be provided during the class on the dates described in the *Assessment overview* table. The assessment tasks and their details will be provided on Moodle at https://moodle.telt.unsw.edu.au/login/index.php

Presentation

All non-electronic submissions should have a standard School cover sheet, which is available from this course's Moodle page.

All submissions are expected to be neat and clearly set out. Your results are the pinnacle of all your hard work and should be treated with due respect. Presenting results clearly gives the marker the best chance of understanding your method; even if the numerical results are incorrect.

Submission

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of 20 percent (20%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day.

Work submitted after the 'deadline for absolute fail' is not accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These are clearly indicated in the course outline, and such assessments receive a mark of zero if not completed by the specified date. Examples include:

a. Weekly online tests or laboratory work worth a small proportion of the subject mark, or
b. Online quizzes where answers are released to students on completion, or
c. Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date, or
d. Pass/Fail assessment tasks.

Marking

Marking guidelines for assignment submissions will be provided at the same time as assignment details to assist with meeting assessable requirements. Submissions will be marked according to the marking guidelines provided.

Examinations

There is no final exam for this course.

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 available 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 Engineering Student Supper Services Centre prior to the examination. Calculators not bearing an "Approved" sticker will not be allowed into the examination room.

Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that has interfered with your assessment performance, you are eligible to apply for Special Consideration. For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's Special Consideration page.

7. Expected resources for students

A subject manual will be made available on Moodle. This manual includes all the necessary lecture materials and the readings at the end of each unit. Since the manual is regularly updated, the previous version of the manual is not recommended.

Suggested additional reading

Relevant readings are provided at the end of each unit. However, further readings can be found in journals such as Harvard Business Review, Long Range Planning, Management Decision, Management Review, Journal of Management Studies, Californian Management Review, Sloan Management Review. These can be accessed via the UNSW Library https://www.library.unsw.edu.au/

UNSW Library website: https://www.library.unsw.edu.au/
Moodle: https://moodle.telt.unsw.edu.au/login/index.php

8. Course evaluation and development

Feedback on the course is gathered periodically using various means, including the UNSW myExperience process, informal discussion in the final class for the course, and the School's Student/Staff meetings. Your feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

In this course, recent improvements resulting from student feedback include better assessment rubric and more time for discussion in the demonstration time.

9. Academic honesty and plagiarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit: student.unsw.edu.au/plagiarism. The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

If plagiarism is found in your work when you are in first year, your lecturer will offer you assistance to improve your academic skills. They may ask you to look at some online resources, attend the Learning Centre, or sometimes resubmit your work with the problem fixed. However more serious instances in first year, such as stealing another student's work or paying someone to do your work, may be investigated under the Student Misconduct Procedures.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis) even suspension from the university. The Student Misconduct Procedures are available here: www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

10. Administrative matters and links

All students are expected to read and be familiar with School guidelines and polices, available on the intranet. In particular, students should be familiar with the following:

- Attendance
- UNSW Email Address
- Computing Facilities
- Special Consideration
- Exams
- Approved Calculators
- Academic Honesty and Plagiarism
- Student Equity and Disabilities Unit

- Health and Safety
- Lab Access
- Makerspace
- UNSW Timetable
- UNSW Handbook
- UNSW Mechanical and Manufacturing Engineering

Appendix A: Engineers Australia (EA) Competencies

Stage 1 Competencies for Professional Engineers

	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