MANF6860
Strategic Manufacturing Management

Term One // 2021
Course Overview

Staff Contact Details

Convenors

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Availability</th>
<th>Location</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sami Kara</td>
<td><a href="mailto:S.Kara@unsw.edu.au">S.Kara@unsw.edu.au</a></td>
<td></td>
<td>Ainsworth Building, 301A</td>
<td></td>
</tr>
</tbody>
</table>

Lecturers

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Availability</th>
<th>Location</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bernard Kornfeld</td>
<td><a href="mailto:b.kornfeld@unsw.edu.au">b.kornfeld@unsw.edu.au</a></td>
<td></td>
<td>Ainsworth Building, 301</td>
<td>0407600268</td>
</tr>
</tbody>
</table>

Demonstrators

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Availability</th>
<th>Location</th>
<th>Phone</th>
</tr>
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<tbody>
<tr>
<td>Sepideh Moshrefi</td>
<td><a href="mailto:s.moshrefi@unsw.edu.au">s.moshrefi@unsw.edu.au</a></td>
<td></td>
<td>Ainsworth Building, 301</td>
<td></td>
</tr>
</tbody>
</table>

School Contact Information

Location

UNSW Mechanical and Manufacturing Engineering

Ainsworth building J17, Level 1

Above Coffee on Campus

Hours

9:00–5:00pm, Monday–Friday*

*Closed on public holidays, School scheduled events and University Shutdown

Web

School of Mechanical and Manufacturing Engineering

Engineering Student Support Services

Engineering Industrial Training

UNSW Study Abroad and Exchange (for inbound students)

UNSW Future Students

Phone
(+61 2) 9385 8500 – Nucleus Student Hub
(+61 2) 9385 7661 – Engineering Industrial Training
(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)
(+61 2) 9385 4097 – School Office**

**Please note that the School Office will not know when/if your course convenor is on campus or available

Email

Engineering Student Support Services – current student enquiries
  - e.g. enrolment, progression, clash requests, course issues or program-related queries

Engineering Industrial Training – Industrial training questions

UNSW Study Abroad – study abroad student enquiries (for inbound students)

UNSW Exchange – student exchange enquiries (for inbound students)

UNSW Future Students – potential student enquiries
  - e.g. admissions, fees, programs, credit transfer

School Office – School general office administration enquiries
  - NB: the relevant teams listed above must be contacted for all student enquiries
Course Details

Credit Points 6

Summary 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 focuses on the links between both manufacturing strategies as well as operational performance and effective supply chain strategies for companies that operate globally with an emphasis on how to plan and integrate supply chain components into a coordinated system.

Course Aims

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 maximize effective utilization of their assets, and hence increase their overall ability to compete.

Students examine the primary importance of manufacturing, operations and accounting in the formulation and implementation of business and corporate strategy in companies. Using case studies, the course looks at strategic manufacturing decisions and how they influence the achievement of the firm's goals specifically at the role decision-makers of operations play in integrating those decisions with overall business and corporate strategies. Students develop a managerial point of view and gain understanding in "state of the art" strategic management thinking. The course is designed to produce graduates with the ability to use quantitative and analytical techniques to add value in a business environment. This involves building models of business problems and analysing business data. These analytical skills are sought after in all areas of business, for example in operations, in marketing and in finance.

Course Learning Outcomes

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

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>EA Stage 1 Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. understand the nature of manufacturing strategy and its relation to corporate strategy</td>
<td>PE1.3, PE2.3, PE3.6</td>
</tr>
<tr>
<td>2. develop a systematic plan for strategy implementation</td>
<td>PE1.3, PE1.5, PE2.3, PE3.6</td>
</tr>
<tr>
<td>3. understand the different types of globalised manufacturing and their implications</td>
<td>PE1.3, PE1.5, PE2.3, PE3.6</td>
</tr>
<tr>
<td>4. appreciate the importance of linking performance monitoring to manufacturing strategy</td>
<td>PE1.3, PE1.5, PE2.3, PE3.6</td>
</tr>
</tbody>
</table>

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 a 1.5 – 2 hrs lecture. Lecture slides will be available in Moodle and students are expected to have a copy of Slack and Lewis Operations Strategy (6th Edition). It is critical that students MUST read the slides and review the relevant text material before they come to the classroom.

Lectures, tutorials, and assessments in the course are designed to cover the core knowledge areas as well as the essential and additional needs of both undergraduate and postgraduate students. Accordingly, additional assignments and tutorial activities will be prepared to accommodate both groups. They do not simply reiterate the texts but build on the lecture topics using examples and cases to show how the theory is applied in practice and the details of when, where and how it should be applied. Lectures and Tutorials are designed to develop several graduate attributes by creating an environment where information sharing, discussions, team work, communication, task completions will take place. Since each of you may have come from a different professional and academic background, your experiences are drawn on to illustrate various aspects of cases covered, and this helps to increase motivation and engagement. A team of students may be assigned to projects/assignments. Regular feedback and discussion on the topics covered aim to support students’ learning process.
Assessment

Assessment Tasks

<table>
<thead>
<tr>
<th>Assessment task</th>
<th>Weight</th>
<th>Due Date</th>
<th>Student Learning Outcomes Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment 1</td>
<td>30%</td>
<td>Week 4, 11 March 2021</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>30%</td>
<td>1 April 2021</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>Assignment 3</td>
<td>40%</td>
<td>Week 11: 29 April 2021</td>
<td>1, 2, 3, 4</td>
</tr>
</tbody>
</table>

Assessment Details

Assessment 1: Assignment 1

Start date: 25 February 2021

Length: Maximum 3000 words

Details:

This assignment allows students to demonstrate applied knowledge by using Porter's model for a given industry case covered in Units 1-3.

Additional details:

A detailed description of the assignment and a marking rubric will be uploaded on Moodle.

Turnitin setting: This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Assessment 2: Assignment 2

Start date: 18 March 2021

Length: Maximum 4000 words

Details:

This assignment allows students to demonstrate applied knowledge in the light of the relevant material covered in Units 4-7 (specifically, core competency, capacity strategy, and the experience curve).

Additional details:

A detailed description of the assignment and a marking rubric will be uploaded on Moodle.

Turnitin setting: This assignment is submitted through Turnitin and students can see Turnitin similarity reports.
Assessment 3: Assignment 3

Start date: Week 7: 1 April 2021

Length: Maximum 5000 words

Details:
This assignments allows students to demonstrate applied knowledge in the light of entire material covered in Units 1-10 in order to develop a strategic plan.

Additional details:
A detailed description of the assignment and a marking rubric will be uploaded on Moodle. The deadline for absolute fail is 5 days from the submission, 20% deduction per day as defined by the UNSW late submission policy.

Turnitin setting: This assignment is submitted through Turnitin and students can see Turnitin similarity reports.
### Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

### Course Schedule

[View class timetable](#)

#### Timetable

<table>
<thead>
<tr>
<th>Date</th>
<th>Type</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>O Week: 8 February - 12 February</td>
<td>Reading</td>
<td>Students should read the course outline and the course requirements to prepare themselves for the term. It is strongly recommended to have access to the textbook.</td>
</tr>
<tr>
<td>Week 1: 15 February - 19 February</td>
<td>Lecture</td>
<td>The Nature and Role of Manufacturing Strategy</td>
</tr>
<tr>
<td>Week 2: 22 February - 26 February</td>
<td>Lecture</td>
<td>Strategic Frameworks</td>
</tr>
<tr>
<td>Week 3: 1 March - 5 March</td>
<td>Lecture</td>
<td>Manufacturing Operations Performance</td>
</tr>
<tr>
<td>Week 4: 8 March - 12 March</td>
<td>Lecture</td>
<td>Capacity Strategies</td>
</tr>
<tr>
<td>Week 5: 15 March - 19 March</td>
<td>Lecture</td>
<td>Product Technology Strategies</td>
</tr>
<tr>
<td>Week 6: 22 March - 26 March</td>
<td>Lecture</td>
<td>Process Technology Strategies</td>
</tr>
<tr>
<td>Week 7: 29 March - 2 April</td>
<td>Lecture</td>
<td>Productivity Improvement Strategies</td>
</tr>
<tr>
<td>Week 8: 5 April - 9 April</td>
<td>Lecture</td>
<td>Competitive Positioning</td>
</tr>
<tr>
<td>Week 9: 12 April - 16 April</td>
<td>Lecture</td>
<td>Strategy Formulation</td>
</tr>
<tr>
<td>Week 10: 19 April - 23 April</td>
<td>Lecture</td>
<td>Monitoring Manufacturing Strategy</td>
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</table>
Resources

Prescribed Resources

Recommended Resources
Relevant readings are provided at the end of each unit on Moodle. 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/

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 using Engineering Lecture Recording & Streaming (LRS) Service to provide better lecture recording. In addition, a new textbook has been introduced to provide up-to-date knowledge for students.

Laboratory Workshop Information
There will tutorials and demonstrations on selected weeks which will be announced on Moodle.
Submission of Assessment Tasks

Assessment submission and marking criteria

Should the course have any non-electronic assessment submission, these should have a standard School cover sheet.

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.

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.

Late policy

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:

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

Examinations

You must be available for all quizzes, tests and examinations. For courses that have final examinations, these are held during the University examination periods: February for Summer Term, May for T1, August for T2, and November/December for T3.

Please visit myUNSW for Provisional Examination timetable publish dates. For further information on exams, please see the Exams webpage.

Special Consideration

If you have experienced an illness or misadventure beyond your control that will interfere with your
assessment performance, you are eligible to apply for Special Consideration prior to submitting an assessment or sitting an exam.

UNSW now has a Fit to Sit / Submit rule, which means that if you attempt an exam or submit a piece of assessment, you are declaring yourself fit enough to do so and cannot later 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.

Please note that students will not be required to provide any documentary evidence to support absences from any classes missed because of COVID-19 public health measures such as isolation. UNSW will not be insisting on medical certificates from anyone deemed to be a positive case, or when they have recovered. Such certificates are difficult to obtain and put an unnecessary strain on students and medical staff.

Applications for special consideration will be required for assessment and participation absences – but no documentary evidence for COVID 19 illness or isolation will be required.
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:

Academic Information

Credit points

Course credit is calculated in Units-Of-Credit (UOC). The normal workload expectation for one UOC is approximately 25 hours per term. This includes class contact hours, private study, other learning activities, preparation and time spent on all assessable work.

Most coursework courses at UNSW are 6 UOC and involve an estimated 150 hours to complete, for both regular and intensive terms. Each course includes a prescribed number of hours per week (h/w) of scheduled face-to-face and/or online contact. Any additional time beyond the prescribed contact hours should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any examinations.

On-campus class attendance

Public distancing conditions must be followed for all face-to-face classes. To ensure this, only students enrolled in those classes will be allowed in the room. Class rosters will be attached to corresponding rooms and circulated among lab demonstrators. No over-enrolment is allowed in face-to-face class. Students enrolled in online classes can swap their enrolment from online to a limited number of on-campus classes by Sunday, Week 1. Please refer to your course's Microsoft Teams and Moodle sites for more information about class attendance for in-person and online class sections/activities.

Your health and the health of those in your class is critically important. You must stay at home if you are sick or have been advised to self-isolate by NSW health or government authorities. Current alerts and a list of hotspots can be found here. You will not be penalised for missing a face-to-face activity due to illness or a requirement to self-isolate. We will work with you to ensure continuity of learning during your isolation and have plans in place for you to catch up on any content or learning activities you may miss. Where this might not be possible, an application for fee remission may be discussed. Further information is available on any course Moodle or Teams site.

In certain classroom and laboratory situations where physical distancing cannot be maintained or there is a high risk that it cannot be maintained, face masks will be considered mandatory PPE for students and staff.

For more information, please refer to the FAQs: https://www.covid-19.unsw.edu.au/safe-return-campus-faqs

Guidelines

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

- Attendance
- UNSW Email Address
- Special Consideration
- Exams
- Approved Calculators
- Academic Honesty and Plagiarism

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Important Links

- Moodel
- Lab Access
- Health and Safety
- Computing Facilities
- Student Resources
- Course Outlines
- Engineering Student Support Services Centre
- Makerspace
- UNSW Timetable
- UNSW Handbook
- UNSW Mechanical and Manufacturing Engineering
- Equitable Learning Services

Image Credit

Synergies in Sound 2016

CRICOS

CRICOS Provider Code: 00098G

Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians of the lands on which UNSW Kensington campus is located.
# Appendix: Engineers Australia (EA) Professional Engineer Competency Standard

<table>
<thead>
<tr>
<th>Program Intended Learning Outcomes</th>
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</thead>
<tbody>
<tr>
<td><strong>Knowledge and skill base</strong></td>
</tr>
<tr>
<td>PE1.1 Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline</td>
</tr>
<tr>
<td>PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline</td>
</tr>
<tr>
<td>PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline ✔</td>
</tr>
<tr>
<td>PE1.4 Discernment of knowledge development and research directions within the engineering discipline</td>
</tr>
<tr>
<td>PE1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline ✔</td>
</tr>
<tr>
<td>PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline</td>
</tr>
<tr>
<td><strong>Engineering application ability</strong></td>
</tr>
<tr>
<td>PE2.1 Application of established engineering methods to complex engineering problem solving</td>
</tr>
<tr>
<td>PE2.2 Fluent application of engineering techniques, tools and resources</td>
</tr>
<tr>
<td>PE2.3 Application of systematic engineering synthesis and design processes ✔</td>
</tr>
<tr>
<td>PE2.4 Application of systematic approaches to the conduct and management of engineering projects</td>
</tr>
<tr>
<td><strong>Professional and personal attributes</strong></td>
</tr>
<tr>
<td>PE3.1 Ethical conduct and professional accountability</td>
</tr>
<tr>
<td>PE3.2 Effective oral and written communication in professional and lay domains</td>
</tr>
<tr>
<td>PE3.3 Creative, innovative and pro-active demeanour</td>
</tr>
<tr>
<td>PE3.4 Professional use and management of information</td>
</tr>
<tr>
<td>PE3.5 Orderly management of self, and professional conduct</td>
</tr>
<tr>
<td>PE3.6 Effective team membership and team leadership ✔</td>
</tr>
</tbody>
</table>