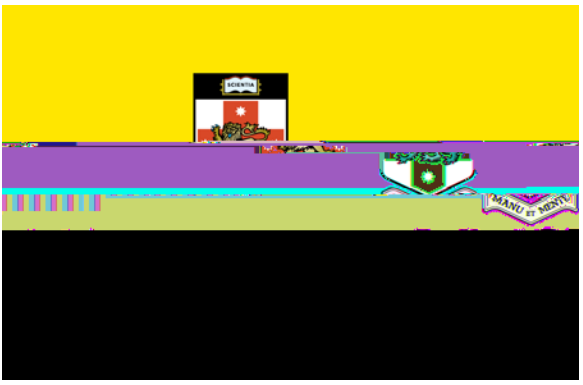

Mechanical and Manufacturing Engineering

Course Outline

Semester 2 2017

MANF9472

PRODUCTION PLANNING AND CONTROL

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1. Staff contact details

Contact details and consultation times for course convenor

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

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

Name: Dr Bernard Kornfeld (Industry Lecturer)
Tel: 0407 600 268
Email: bernard.kornfeld@celsian.com.au

Name; Ms Shiva Abdoli (Demonstrator)
Room 301, Ainsworth Building
Tel: (02) 9385 6851
Email: s.abdoli@unsw.edu.au

Please see the course Moodle.

2. Important links

- Moodle
- UNSW Mechanical and Manufacturing Engineering
- Course Outlines
- Student intranet
- UNSW Mechanical and Manufacturing Engineering Facebook
- UNSW Handbook

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.

The UNSW website states “The normal workload expectations of a student are approximately 25 hours per semester for each UoC, including class contact hours, other learning activities, preparation and time spent on all assessable work. Thus, for a full-time enrolled student, the normal workload, averaged across the 16 weeks of teaching, study and

This means that you should aim to spend about 9 h/w on this course. The additional time should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any examinations.

There will be parallel teaching of MANF4615 – Production Planning & Control

Contact hours

	Day	Time	Location
Lectures	Friday	6pm – 8 pm	Ainsworth G02 (K-J17-G02)
Demonstrations	Friday	8pm – 9pm	Ainsworth G02 (K-J17-G02)

Please refer to your class timetable for the learning activities you are enrolled in and attend only those classes.

Summary and Aims of the course

This subject is primarily concerned with the efficient and effective management of materials flow through manufacturing organisations in such a way that wastage (particularly in the form of excess inventory) is reduced, materials throughput time is sped up, and customer requirements are met in a timely manner.

This course aims firstly to give students grounding in the basic issues confronting production managers today and secondly to present a set of possible solution to those issues, in light of recent advances in computing and information technology.

This course enables you to investigate the basic issue related to Production Planning and Control, which is how much of what material items to produce (or order) at what specific times in order to satisfy customer demand in an optimal way. The main thrust of this subject is a study of the dynamics of how materials flow through a manufacturing organisation, an evaluation of the various production planning and control techniques available to optimise this flow and how effective production planning and control can contribute to a company's competitive advantage.

This course introduces students the dynamics of material flow through a manufacturing system, basic and advanced techniques of production planning and control and their realisation within a factory simulation model as well as matching different approaches to different manufacturing situations. Therefore, this course is an extension of the MANF6860 Manufacturing Strategy, which mainly deals with long term strategic planning process.

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 strategic implications of the Production Planning and Control (PPC)	PE1.1
2.	Understand the concept demand management, forecasting and the link between demand management and MPS	PE1.1, PE2.2
3.	Understand the main PPC systems and appreciate the importance of capacity planning	PE1.1, PE2.2
4.	Understand the importance of controlling production activities	PE1.1, PE2.2

4. Teaching strategies

This course is included to give you the skills to appreciate and carry out the production planning in a manufacturing environment. The content reflects my experience as a lecturer as well as my practical experience as a production manager in manufacturing environment, and practical examples drawn from that experience are used throughout the lectures and tutorials.

Effective learning is supported when you are actively engaged in the learning process and by a climate of enquiry, and these are both an integral part of the lectures and demonstrations.

You become more engaged in the learning process if you can see the relevance of your studies to professional, disciplinary and/or personal contexts, and the relevance is shown in the lectures and assignments by way of examples drawn from industry.

Dialogue is encouraged between you, others in the class and the lecturers. Diversity of

5. Course schedule

Week	Topic	Location	Suggested Readings
1			

6. Assessment

Assessment overview

Assessment	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
Assignments 1, 2, and 3	1000 words each	10%	1 and 2	Understanding key points weeks 1 to 8	During week 3, 7 and 10	Midnight Sunday 1st October	Two weeks after submission
Test 1	10 multiple choice	35%	1, 2 and 3	Lecture material from weeks 1 to 5.	During week 6	N/A	Two weeks after submission
Test 2	2 hours	35%	1, 2, 3, 4	Lecture material from weeks 6-11 inclusive.	During week 12	N/A	Two weeks after submission

Assignments

Presentation

All non-electric 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

Late submissions will be penalised 5 marks per calendar day (including weekends). An extension may only be granted in exceptional circumstances. Special consideration for assessment tasks must be processed through student.unsw.edu.au/special-consideration.

It is always worth submitting late assessment tasks when possible. Completion of the work, even late, may be taken into account in cases of special consideration.

Where there is no special consideration granted, the 'deadline for absolute fail' in the table above indicates the time after which a submitted assignment will not be marked, and will achieve a score of zero for the purpose of determining overall grade in the course.

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

You must be available for all tests and examinations. Final examinations for each course are held during the University examination periods, which are June for Semester 1 and November for Semester 2.

Provisional Examination timetables are generally published on myUNSW in May for Semester 1 and September for Semester 2.

For further information on exams, please see the Exams section on the intranet.

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

10. 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: 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

Further information on School policy and procedures in the event of plagiarism is available on the intranet.

11 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, Participation and Class Etiquette
- UNSW Email Address
- Computing Facilities

- Assessment Matters (including guidelines for assignments, exams and special consideration)
- Academic Honesty and Plagiarism
- Student Equity and Disabilities Unit
- Health and Safety
- Student Support Services

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