



UNSW
AUSTRALIA

Never Stand Still

Engineering | Mechanical and Manufacturing Engineering

MANF9472

PRODUCTION PLANNING AND CONTROL

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Credit Points:

This is a 6 unit-of-credit (UoC) course, and6(s)8.9 Tc N</MCIDc 0.007S2 Tc 0.01(ou)2.64us<</MCID 33 >>

Summary 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 speeded up, and customer requirements are met in a timely manner.

Aims of the Course

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

This course enables you to investigate the basic issue related to Production Planning and Control that 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 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 realization within a factory simulation model as well as matching different approaches to different manufacturing situations. Therefore, this course is an extension of the MANF9471 Manufacturing Strategy, which mainly deals with long term strategic planning process

Student learning outcomes

This course is designed to address the below learning outcomes 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

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All lectures in this course are given by the course lecturer, Dr. Bernard Kornfeld

Topic	Date	Location	Lecture Content	Suggested Readings
Manufacturing Planning and Control	29/7/15	Ainsworth Building 102 (K-J17-102)	Introduction to Production Planning and Control	Lecture Slides and relevant chapter in the text book
Demand Management and Forecasting Techniques	5/8/15	Ainsworth Building 102 (K-J17-102)	Methodologies for demand and management and forecasting	Lecture Slides and relevant chapter in the text book
Sales and Operations Planning	12/8/15	Ainsworth Building 102 (K-J17-102)	Top level planning and pyramid forecasting	Lecture Slides and relevant chapter in the text book
Enterprise Resource Planning	19/8/15	Ainsworth Building 102 (K-J17-102)	ERP framework	Lecture Slides and relevant chapter in the text book
Inventory Management	26/8/15	Ainsworth Building 102 (K-J17-102)	Inventory management techniques and safety stock	Lecture Slides and relevant chapter in the text book
Master Production Scheduling (MPS)	2/9/15	Ainsworth Building 102 (K-J17-102)	Introduction to MPS and methodologies for developing an MPS	Lecture Slides and relevant chapter in the text book
Material Requirement Planning (MRP)	9/9/15	Ainsworth Building 102 (K-J17-102)	Push Systems, MRP techniques and applications	Lecture Slides and relevant chapter in the text book
Distribution Requirement Planning (DPR)	16/9/15	Ainsworth Building 102 (K-J17-102)	DPR techniques and applications	Lecture Slides and relevant chapter in the text book
Just-in-Time (JIT)	23/9/15	Ainsworth Building 102 (K-J17-102)	Pull Systems, JIT philosophy, Kanban system	Lecture Slides and relevant chapter in the text book
Mid-session Break	30/9/15			

Production Scheduling	7/10/15	Ainsworth Building 102 (K-J17-102)	Scheduling techniques and applications 1	Lecture Slides and relevant chapter in the text book
Production Scheduling	14/10/15	Ainsworth Building 102 (K-J17-102)	Scheduling techniques and applications 2	Lecture Slides and relevant chapter in the text book
Production Activity Control	21/10/15	Ainsworth Building 102 (K-J17-102)	PPC implementation and control techniques	Lecture Slides and relevant chapter in the text
Review of Lecture Material	28/10/15	Ainsworth Building 102 (K-J17-102)	Selected lecture material review	N/A

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You are assessed by way of assignments and examinations which involve both descriptive material and hands on application of the lecture material.

Assessment task	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date, time, and submission requirements
Assignment 1	1000 words	10%	1,2	Understanding key points weeks 1 and 2 ,	Week 3

Assignments

Presentation

All submissions should have a standard School cover sheet which is available from this subject's Moodle page.

All submissions are expected to be neat, and clearly set out. Your results are the pinnacle of all your hard work. Presenting them 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. Where an assessment task is worth less than 20% of the total course mark and you have a compelling reason for being unable to submit your work on time, you must seek approval for an extension from the course convenor **before the due date**. Special consideration for assessment tasks of 20% or greater must be processed through <https://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.

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 [Administrative Matters](#).

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 <https://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 [Administrative Matters](#), available on the School website and on Moodle, and the information on UNSW's [Special Consideration page](#).

Textbook:

Vollman, T. E., Berry, W., L., Whybark, D. C., Jacobs, F. R., "Manufacturing Planning & Control for Supply Chain Management", McGraw-Hill, 2005.

Other Reference Books

Russel, R. S, and Taylor, B. W., (2000) Operations Management, Third edition, Prentice Hall, Inc., New York.

Other available literature in the area of production and operations management can be used for certain topics. <http://info.library.unsw.edu.au/web/services/services.html>

Feedback on the course is gathered periodically using various means, including the Course and Teaching Evaluation and Improvement (CATEI) 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.

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: <https://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:

<http://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf>

Further information on School policy and procedures in the event of plagiarism is presented in a School handout, [Administrative Matters](#)

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