

The header banner features a yellow background at the top. Below it, there are several logos and text elements. On the left, there is a logo for 'UNIVERSITY OF WINDSWOR' with 'Semester 2, 2015' written below it. In the center, the text 'Course Outline' is prominently displayed in a large, black, sans-serif font. To the right of the text, there is a small logo for 'MANUFACTURING DESIGN'.

Course Outline

MMAN2130

Manufacturing Design

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1. Staff Contact Details

Course Convenor and Lecturer:

Nathan J Parrott
Office location
Tel: 0408 263 865
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Course Demonstrators:

Zhara Faraji Rad
Email: z.farajirad@unsw.edu.au

TAFE Workshop

Ian Frost
Email: Ian.G.Frost@tafensw.edu.au

Consultation concerning this course is available on Monday, Wednesday 0930. 1700 whenever I am not otherwise engaged. Please use Moodle as a first resort for consultation. Strictly no consultations will be held on Thursday and Friday.

2. Course details

Credit Points:

This is a 6 unit-of-credit (UoC) course, and involves 7.5 hours per week (h/w) of contact.

Estimations of a student are approximately 25 hours per semester for each UoC, including class contact hours, other

Contact Hours

4. Course schedule

All lectures in this course are given by Nathan Parrott unless stated otherwise.

Tuesday 10:00-12:00 G25 Electrical Engineering Building
 CAD Labs (check allocated time) G16-17 Tyree Energy Building
 TAFE (check allocated time) (see the information booklet on Moodle)

Wk	Topic	Date	Location	Lecture Content	Demonstration /Lab Content	Suggested Readings
1	Intro	28/07	G25 Electrical Engineering	<i>Introduction to MMAN2130, final enrolment, expectations and assessment, Sketching</i>	No CAD Labs	Solo Requirement Specification
2	Concept Sketching	04/08	G25 Electrical Engineering	<i>Techniques useful for concept sketching</i>	Introduction to SolidWorks	Solo Requirement Specification, Concept Sketch Assessment Guide
3	3D Part Modeling	11/08	G25 Electrical Engineering	<i>Creation of Engineering Drawings, Standards, dimensioning, datums and symbols</i>	2D Sketching	2D Engineering Drawing Assessment Guide
4	2D Drawings	18/08	G25 Electrical Engineering	<i>AS1100 standards, dimensioning</i>	3D Part Modeling	2D Engineering Drawing Assessment Guide
5	Engineering Drawing	25/08	G25 Electrical Engineering	<i>Review of standards, for fixings and influence on part design, standards for holes, etc., parts and material list</i>	Creating holes and notes	2D Engineering Drawing Assessment Guide
6	Limits Fits & Tolerances	01/09	G25 Electrical Engineering	<i>Limits, Fits and tolerances and their application in design.</i>	Aesthetics like threads and surface finishing	Manufacturability Review Assessment Guide

7	Process Planning 1	08/09	G25 Electrical Engineering	<i>Process Plan Assembly Plan BOM</i>		Manufacturability Review Assessment Guide
8	Process Planning 2	15/09	G25 Electrical Engineering	<i>Design for Manufacturability, Material Selection and High Volume Manufacturing</i>	Generating BOM's	Manufacturability Review Assessment Guide
9	Material Selection	22/09	G25 Electrical Engineering	<i>Utilizing Material Index's</i>	CAD Test 1	Final Report Assessment Guide
10	Design for high volume Manufacture 1	29/09	G25 Electrical Engineering	<i>Design for Manufacturability, Material Selection and High Volume Manufacturing</i>	Patterning and mirroring	Final Report Assessment Guide
11	Design for high volume Manufacture 2	06/10	G25 Electrical Engineering	<i>Design for Manufacturability, Material Selection and High Volume Manufacturing</i>	CAD Test 2	Final Report Assessment Guide

Assessment	Deadline	Weight %	Learning Outcomes Assessed	Details
Concept Sketches	Week 3	2	1,2,3,4	

6. Exnected Resourres for students

- (1) *Manufacturing Engineering and Technology*, S. Kalpakjian and S R Schmid. Prentice Hall
- (2) *Engineering Drawing*, A. W. Boundy, McGraw Hill (7th Edition).
- (3) *Material Selection in Mechanical Design*, Ashby, M., Elsevier.
- (4) *Dimensioning and Tolerancing for Function and Economic Manufacture*, L. E. Farmer, Blueprint Publications.
- (5) *Manufacturing Processes* B.H. Amstead, P.F. Ostwald and M.L. Begeman.
- (6) *Materials and Processes in Manufacturing*, E.P. Degamo, J.P. Black and R.A. Kohser.
- (7) *Product Design and Process Engineering*, B.W. Niebel and A.B. Draper.
- (8) *Manufacturing Processes*, H.W. Yankee.
- (9) Moodle based learning modules.

Additional materials provided in Moodle

Course will be administered by using Moodle. Therefore course administration and lecture

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 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](#), available on the School website.

9. Administrative Matters

You are expected to have read and be familiar with *Administrative Matters*, available on the School website: www.engineering.unsw.edu.au/mechanical-engineering/sites/mech/files/u41/S2-2015-Administrative-Matters_20150721.pdf

This document contains important information on student responsibilities and support, including special consideration, assessment, health and safety, and student equity and diversity.

Nathan Parrott
July 2015

	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