Course Outline

Semester 1 2015

# MMAN2130
# DESIGN AND MANUFACTURE

## CONTENTS

For a standard 24 UoC in the semester, this means 600 hours, spread over an effective 15 weeks of the semester (thirteen weeks plus stuvac plus one effective exam week), or 40 hours per week, for an average student aiming for a credit grade Various factors, such as your own ability, your target grade, etc., will influence the time needed in your case. Some students spend much more than 40 h/w, but you should aim for not less than 40 h/w on coursework for 24 UoC.

This means that, for this course, you should aim to spend not less than an additional 2.5 hours per week of your own time for the weeks where there are 7.5 hours of contact. This should be spent in making sure that you understand the material presented, completing the set tasks, further reading about the requirements for the project.

There is no parallel teaching in this course.

**Summary of the course**

This subject introduces you to basic aspects of design and manufacturing, process selection, manufacturing processes, material properties and selection and the use of

Be familiar with the basic engineering and physical properties of common engineering materials and how to select them for a given design.
Be familiar with the link between product design, material selection and manufacturing.
Able to understand some manufacturing processes and their capabilities.
Able to extend the methodology developed for this course to other situations.
Able to work in a group to determine the manufacturing requirements and functionality of the product.
Able to relate to economic requirements for manufacturing and thus optimise the production of the component.

**Graduate attributes**

UNSWôs graduate attributes are shown at
www.secretariat.unsw.edu.au/acboard/approved_policy/graduate_attributes.pdf
and are:

1. the skills involved in scholarly enquiry;
2. an in-depth engagement with the relevant disciplinary knowledge in its interdisciplinary context;
3. the capacity for analytical and critical thinking and for creative problem solving;
4. the ability to engage in independent and reflective learning;
5. information literacy ï ï the skills to locate, evaluate and use relevant information;
6. the capacity for enterprise, initiative and creativity;
7. an appreciation of, and respect for, diversity;
8. a capacity to contribute to, and work within, the international community;
9. the skills required for collaborative and multidisciplinary work;
10. an appreciation of, and a responsiveness to, change;
11. a respect for ethical practice and social responsibility; and
12. the skills of effective communication.

A statement of broad graduate attributes has meaning when expressed in the context of the discipline.

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| Manufacturability Review | Week 8 | 12 |

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| 1,2,3/4 | 5 | CAD Lab<br>*(Tolerance techniques, assembly drawings)* | | | |

6-10/4 **Easter Monday a[illegible]9.4g S(a)e(s)3(ter3(ter>Br)9e(s)3(s)kT**

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