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1. Staff Contact Details

Contact details and consultation times for course convenor

Summary of the Course

This course is a sequel to courses in Engineering Mechanics (MMAN1300 and MMAN2300) where you will have studied the dynamics of particles, rigid bodies and mechanisms under a number of simplifying assumptions – chiefly that motion occurs in the plane. In this course, you will examine systems

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. Explain and describe principles and components of Rigid Body Dynamics and their inter-relationships formally and informally, in writing and verbally, to technical experts, peers and lay people.	1.1, 1.3 3.2, 3.4
2. Model, approximate, analyse and simulate the kinematics of rigid bodies in three dimensions using appropriate computational tools as necessary.	1.1, 1.2, 1.3 2.1, 2.2 3.2, 3.4
3. Model, approximate, analyse and simulate the dynamics of rigid bodies in three dimensions using Newton-Euler formulations and appropriate computational tools as necessary	1.1, 1.2, 1.3 2.1, 2.2 3.2, 3.4
4. Apply the principles of analytical mechanics to the dynamics of particles and rigid bodies in three dimensions.	1.1, 1.2, 1.3 2.1
5. Discern the relevant principles that must be applied to describe or measure the equilibrium or motion of dynamic systems and discriminate between relevant and irrelevant information in the context.	1.1, 1.2, 1.3 2.1

3. Teaching strategies

4.

In the suggested readings above use the following key for suggested readings (see Resources in Section 7 below):

IDE: O'Reilly,

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](#).

6. Expected Resources for students

Recommended textbook (Available from the UNSW4 CS 0 SCk4M21 Tf 2 Tr 15.9UN).

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.

AppendixA: Engineers Australia (EA) Professional Engineer Competency Standard

	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