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Contact details and consultation times for course convenor

Course convenor	Name: Dr Shaun Chan Office location: J17 Room 402D Email: ging.chan@unsw.edu.au Research: https://research.unsw.edu.au/projects/advanced-combustion-diagnostics-laboratory
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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 examination periods, is about 37.5 hours per week.”

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 and further reading.

There is no parallel teaching in this course.

Contact hours

Refer to Section 4 and Course schedule for the day, time and location for each lecture, problem solving session, workshop, etc.

Summary and Aims of the course

This is the final Course in Mechanical Engineering Design. Here you will be expected to apply the knowledge and skills you acquired in the preceding courses to a real, commercial design problem. To facilitate this, you will be working on a team Project specified by UNSW's Industry Partners.

The Course requires the assembly of large amounts of high-level of documentation and several instances of formal public presentation. The demonstration of team work and collaborative skills – as well as meeting specified deliverables – is essential for satisfactory completion. Interaction with the clients – both in formal meetings and in your regular liaison throughout session – as well as the quality of your reporting of these events will be evaluated to the standards expected of professional consulting engineers

You will nominate a preference for your Project (and hence Industry Partner) at the end of Week 2. Upon allocation to a Project (by the main demonstrator in Week 2), you will engage in activities and negotiated learning with experts from both within and outside the University. Essentially, by the end of Semester your team must have:

- **Formulated the technical specifications for your Design** through a process of negotiation with the Industry Partner and academic staff. The design must be completed with a high level of engineering rigour.
- Understood and **demonstrated that they were responsible for constructing the organisational design of their team**, managing the project and coordinating the workload within their team.

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 Compe

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Week	Day	Date	Time	Activity	Location	Task Due
01	Thurs	27-Jul-17	12-15	Lecture 1: Introduction	Law Theatre G04 (K-F8-G04)	
	Thurs			Lecture 2: Problem Definition		
	Thurs					
			16-18			
	Thurs			No tute		
02	Thurs	03-Aug-17	12-15	Project Introductions: Poster session	Design Studio (K-J17-Level 5)	
	Thurs					
	Thurs					
			16-18			T1
	Thurs			No tute		
03	Thurs	10-Aug-17	12-15	Lecture 3: Meeting Etiquette	Law Theatre G04 (K-F8-G04)	
	Thurs					
	Thurs					
			16-18	(Client Meetings)	Teams to discuss with clients	T2
	Thurs					
04	Thurs	17-Aug-17	12-15	Lecture 4: Introduction to Product Development Part 1	Law Theatre G04 (K-F8-G04)	
	Thurs					
	Thurs					
			16-18	Mentor Session	Ainsworth 203/204 (K-J17-203/204) Ainsworth G01/101 (K-J17-G01/101)	
05	Thurs	24-Aug-17	12-15	Lecture 5: Introduction to Product Development Part 2	Law Theatre G04 (K-F8-G04)	
	Thurs					
	Thurs					
			16-18	Mentor Session	Ainsworth 203/204 (K-J17-203/204) Ainsworth G01/101 (K-J17-G01/101)	
06	Thurs	31-Aug-17	12-15	Lecture 6: Technical Presentation	Law Theatre G04 (K-F8-G04)	
	Thurs					
	Thurs					
			16-18	Mentor Session	Ainsworth 203/204 (K-J17-203/204) Ainsworth G01/101 (K-J17-G01/101)	
07	Thurs	07-Sep-17	12-15	Progress Review	Law Theatre G04 (K-F8-G04) Ainsworth 102 (K-J17-102) Ainsworth 202 (K-J17-202)	
	Thurs					
	Thurs					
			16-18	LEAP/Mentor Session	Ainsworth 203/204 (K-J17-203/204) Ainsworth G01/101 (K-J17-G01/101)	T3

For some assessment tasks you will be asked to write a short paragraph (100-150 words) and a longer paragraph (200-300 words) on a topic related to the text. You will also be asked to write a short paragraph (100-150 words) and a longer paragraph (200-300 words) on a topic related to the text.

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Assessment overview

Task	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
T1: Project selection	N/A	N/A	N/A	N/A	23.59, Saturday 5 th August via Moodle	N/A	Week 3
T2: Client meeting	N/A	N/A	N/A	N/A	N/A	N/A	N/A
T3: Progress Review	30 minutes per presentation	20%	2 and 4	Design capability and oral presentation skills	Weeks 7, 8 and 9	N/A	Week 10, via Moodle
T4: Poster Presentation	3 hours per session	20%	2 and 4	Design capability and oral presentation skills	Weeks 11 and 12	N/A	Week 13, via Moodle
T5: Final Design Report	30 pages	30%	1 and 2	Design capability and report writing skills	Week 12	N/A	Upon release of final results
T6/T7: Feedback from Client and Mentors	N/A	30%	3 and 4	Design capability and communication skills	Week 13	N/A	Upon release of final results
T8: Peer Assessment	N/A	-50%	1, 2 3 and 4	All of above	Week 12	N/A	Feedback via Moodle, actual marks upon release of final results

Assignments

The assessment tasks for this Course are described below:

T1 Project Selection and Placement

In Week 2, the Industrial Partners will present the Projects they have on offer through a Poster Presentation Event. You will then express a preference for which Project you'd like to work on. Preference will be given to students with higher WAM.

T2 Client Interview

Having been placed in a Project Team, you must then formally meet with your Industry Partner some time in Week 3. Whilst there are no marks awarded for your participation *per se*, your professional conduct at this meeting will be noted and will contribute toward your score in T6.

T3 Progress Review

The Progress Review is an opportunity for you to improve your oral communication skills through a focus on public speaking and persuasion. This activity requires your team to explain how the work is progressing, what the significant issues are for the design projects. Assessment will focus on the clarity, audibility, content knowledge and persuasiveness of your oral defense as judged by both your mentors and course staff.

T4 Poster Presentation

This is where you will present your work to your industrial partners through a Poster Presentation Event. Your mark for this particular assessment will be determined by the mentors, course staff and industrial partner.

T5 Final Report

The report will be in the form of a professional engineering document. In this document, you will detail the brief you were given at the start of the project. You will then show how you worked from an initial statement of the problem, following a sound process to develop a design to satisfy your industrial partner's needs.

The report will include all of the information required for the client to implement the design. If drawings are included, they will be to AS 1100. The particular challenge of this report will be to adequately convey the information within the prescribed length limit.

T6 Feedback from Client

Your Industry Partner will comment on your performance. Your team's overall performance will be considered with regard to how well you addressed the client's needs, the rigour of your approach to solving their problem and ultimately the usefulness to them of your work.

T7 Feedback from Mentor

Your mentors will comment on your performance. Your team's overall performance will be

marked according to the marking guidelines provided.

Examinations

There is no examination for this course.

Special consideration and supplementary assessment

For details of applying for special consideration and conditions for the award of supplementary assessment, see the [School intranet](#)

arrangements with them if contact is required outside of the allocated meeting times for your team.

Suggested Reading

Whilst there is not a prescribed textbook for this Course, you may find the following materials instructive:

- Dym, C.L and Little, P. (2009). *Engineering Design: A Project-Based Introduction*.
- Robert B. Cialdini (1993). *Influence: The P*

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

	Program Intended Learning Outcomes
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PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals

PE1: Knowledge
and Skill Base