GSOE9340

LIFE CYCLE ENGINEERING

Contents

1. Staff and Student Details

Contact details and consultation times for course convenor

Contact Hours

	Day	Time	Location
Lectures	Wednesday	6 - 8	

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.	Have gained knowledge in the inter-disciplinary field of Life Cycle Engineering	PE1.3, PE1.5, PE1.6
2.	Develop in-depth understanding of various tools and techniques associated with engineering and managing the whole life cycle of a product	PE2.2
3.	Develop an appreciation of the future trends in the area of triple bottom line of sustainability (economic, ecological and social)	PE1.4

3. [illegible]

This course is included to give you the skills to appreciate the engineering of product life cycles in order to reduce environmental impact and ultimately to achieve the three pillars of sustainability; namely economic, environmental and social sustainability. The content reflects my experience as a lecturer as well as my practical experience in manufacturing environment, and practical examples drawn from that experience are used throughout the lectures and demonstrations. Effective learning is supported when you are actively engaged in the learning process and by a climate of enquiry, and these are both achieved in the lectures and demonstrations by way of practical case studies. You become more engaged in the learning process if you can see the relevance of your studies to professional, disciplinary and/or personal contexts, and the relevance is shown in all parts of the lectures and assignments by way of examples drawn from industry.

Dialogue is encouraged between you, others in the class and the lecturers. Diversity of experiences is acknowledged, as some students in each class have prior experience in manufacturing environment. Your experiences are drawn on to illustrate various aspects, and this helps to increase motivation and engagement.

It is expected that assignments will be marked and handed back as soon as possible. You will have feedback and discussion, while the assignment is fresh in your mind, to improve the learning experience.

The subject will be presented in the form of lectures and demonstrations. Each weekly class will consist of a 1-1.5 hrs lecture followed by a demonstration example or case study related to the material covered in the lecture. A typical session would consist of a lecture covering the main elements of the topic for the week, interspersed with a number of individual or

Unit 7: Environmentally Sustainable Product Development -2	9/9/15	G02, Ainsworth Building	Implementation of Eco-design and industrial approaches	Eco-efficiency demonstration	Readings 15 and 16
Unit 8: Product Usage	16/9/15	G02, Ainsworth Building	Data collection and processing, Smart Products	N/A	Readings 17 and 18
Unit 9: Product Collection and Recovery	23/9/15	G02, Ainsworth Building	Close loop product cycle, reverse logistics and network design	N/A	Readings 19 and 20
Session Break	**30/9/15**				
Unit 10: Product End-of-Life Management -1	7/10/15	G02, Ainsworth Building	EOL decision making, remaining lifetime prediction	N/A	Readings 21
Unit 11: Product End-of-Life Management -2	14/10/15	G02, Ainsworth Building	Disassembly, reuse and recycling	N/A	Readings 21 and 22
Unit 12: Information Management and Future Trends	21/10/15	G02, Ainsworth Building	Product service system, Product Life Cycle Management	N/A	Readings 23 and 24
Review of Lecture Material	28/10/15	G02, Ainsworth Building			

The schedule shown may be subject to change at short notice to suit exigencies.

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.

Assessment Criteria

A detail

List of required and suggested additional readings and availability (in bookshop, UNSW library, MyCourse)

Additional readings will be handed out during the each class.

Additional materials provided in Moodle

Course will be administered by using Moodle. Therefore course administration and some lecture materials may be uploaded to Moodle. Students are advised to use Moodle for class communic.6(ur)-5.9(e)do5D10.6(r)-6(f)-17T

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.(a)10.5(t)-6.6(anc)-9naarng anoth is

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	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

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