Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	ENGINEERING PROJECT MANAGEMENT AND SUSTAINABLE DESIGN
Unit ID:	ENGIN2002
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	(ENMEC2121 and ENMTX2050)
ASCED:	030101

Description of the Unit:

Within all branches of engineering a practising engineer needs to be able to manage a project and develop designs to solve problems and develop new products. Following the introductory units in the first year this unit will build upon the students knowledge of the design process, sustainability and further their knowledge of the use of computer aided design through a multidisciplinary group project based approach. In addition it will also further develop the students ability to manage projects by developing an understanding of the concepts and tools needed to manage an engineering project.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory						
Intermediate			✔			
Advanced						

Learning Outcomes:

On successful completion of the unit the students are expected to be able to:

Knowledge:

K1. Recognise the multidisciplinary approaches to engineering design .
K2. Select the appropriate tools for a design problem.
K3. Inquire into, and evaluate, the importance of sustainability in design and project management.

Skills:

S1. Develop and integrate the various elements of a comprehensive engineering design.
S2. Use appropriate engineering project management methods and tools.
S3. Categorise the stages of project management and design where sustainability issues are relevant.

Application of knowledge and skills:

A1. Analyse and evaluate an engineering design, within the context of its capabilities and limitations, to address critical issues in an engineering case study.
A2. Analyse and evaluate an engineering project within the context of a case study.

Unit Content:

Topics may include:

- A selection of the below items covered through lectures on;

  a. Design Specifications & Concept Selection Methods, Human Factors

  b. FMEA, Risk, Ethics, Systems, Sustainability, Standards, Patents & Standards Marking

- Management of projects and resources and the economics of engineering projects.

- Topics relevant to the individual engineering discipline that will be embedded in the multidisciplinary project

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1 - K3, S1 - S3, A1 - A2	A group presentation of the work undertaken in the group project.	Presentation	20 - 30%

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1 - K3, S1 - S3, A1 - A2	A group report detailing the design of an engineering system.	Report	40 - 60%
K1 - K3, S1 - S3, A1 - A2	Individual report demonstrating project management techniques.	Portfolio/Report	10 - 20%

Adopted Reference Style:

Other (Refer to the library website for more information: IEEE)

Refer to the library website for more information

Fed Cite - referencing tool