Course Outline (Higher Education)

Institute / School:	Institute of Innovation, Science, and Sustainability
Course Title:	PROFESSIONAL ENGINEERING
Course ID:	ENGIN1001
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	(ENCOR1005)
ASCED:	039999

Description of the Course:

A professional engineer needs to be able to convey an idea to a diverse audience, manage their and others' time, and collaborate with other disciplines. This course provides an introduction to the techniques that engineers use in the work environment to manage a project and develop ideas for a more sustainable future. The course develops a basic understanding of how engineers analyse a problem and find an appropriate solution, taking into account all constraints, such as environmental, financial, technical, and social. You will be introduced to the process of working in teams and how to clearly communicate to yield an appropriate solution to an engineering problem. Through major team challenges, your skill of working or leading a team with effective communication will be honed.

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 course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory			✔			
Intermediate						
Advanced						

Learning Outcomes:

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

Knowledge:

K1. Recognize the skills which an engineer should be equipped with.

K2. Recognise the profession of engineering and its various disciplines.

K3. Identify where engineers can contribute to society.

Skills:

S1. Synthesize communication in a professional environment and at an appropriate level.

S2. Evaluate the principles and importance of occupational health and safety in the context of the engineering profession.

S3. Appraise collaborative activities with team members to solve a real engineering problem.

Application of knowledge and skills:

A1. Identify and apply theory to solve engineering problems.

A2. Develop teamwork to solve engineering problems.

Course Content:

Topics may include:

- Understanding the engineering profession and systems
- Technical report writing in the engineering profession
- Information retrieval and management
- Introduction to engineering economics
- Cost-Benefit analysis in engineering projects
- Engineering design for sustainable development
- Life cycle analysis and assessment

- Basic workshop safety

Values:

V1. Demonstrate a professional attitude towards self, supervisors and colleagues.
V2. Demonstrate an understanding of teamwork skills and technique.
V3. Appreciate the importance of understanding how projects are managed and communicated.

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1 - K3,	Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practise in the technology domain.	Mid-Semester Test/quizzes/class-test	25 - 30%
S1,S3, A1, A2	Team-based project that will be tasked with deriving a solution to an engineering problem. If available this will be based around the Engineers Without Borders (http://www.ewbchallenge.org/content/aims-objectives) challenge.	project Proposal, report and presentation	45 - 55%
S1,S2	Understanding the principles and importance of occupational health and safety in the context of the engineering profession.	Workshop/Lab Report	10% - 15%

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