

Course Outline

Title: ENGINEERING IN PRACTICE 2

Code: ENCOR1105

Faculty / Portfolio: Faculty of Science

Program Level:

	AQF Level of Program					
	5	6	7	8	9	10
Level						
Introductory			✓			
Intermediate						
Advanced						

Pre-requisites: Nil

Co-requisites: Nil

Exclusions: Nil

Progress Units: 15

ASCED Code: 039999

Learning Outcomes:

Knowledge:

- K1.** List the skills which an engineering practitioner should be equipped with
- K2.** Describe the importance of ethical conduct to the engineering practitioner
- K3.** Explain the fundamentals of safe work practices
- K4.** Explain the relationship between engineering and the environment
- K5.** Describe how sustainability is practiced by the engineering project team
- K6.** Explain how items taught in various courses integrate to realise a technical project

Skills:

- S1.** Produce professional assignments in an ethical manner
- S2.** Practice and evaluate occupational health and safety procedures
- S3.** Integrate sustainability and environmental considerations in engineering projects
- S4.** Collaborate effectively with team members to solve a real engineering problem
- S5.** Apply knowledge acquired in various classes to an engineering project

Application of knowledge and skills:

- A1.** Apply safety principles to engineering tasks
- A2.** Analyse engineering decision making in line with ethical theory
- A3.** Produce and present documentation and presentations to a professional standard
- A4.** Apply the concepts of sustainability and community engagement to engineering projects
- A5.** Evaluate individual and team progress by self-reflecting

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Values and Graduate Attributes:

Values:

- V1. Recognise common principles of professional conduct
- V2. Recognise safety as a major aspect of workplace activities
- V3. Develop an understanding of sustainable engineering practice
- V4. Appreciate learning as a lifelong process

Graduate Attributes:

Attribute	Brief Description	Focus
Continuous Learning	Students are taught to organise their information and research activities toward achieving their goal: which in this case is the conclusion of a major design project involving the Engineers Without Borders Challenge.	Medium
Self Reliance	In addition to teamwork, individual work is part of the course and students recognise that how they conduct themselves and organise their work is just as important to their team as it is for themselves. Information gathering techniques are reiterated from the previous semester.	Medium
Engaged Citizenship	The central theme of the course is engineering and the need to work in conjunction with the community and environmental considerations. Community consultation is important to engineering work and this is highlighted by the major team project. Ethics and how this applies to engineering is thus very important.	High
Social Responsibility	Students are made aware of the fact that the engineer does not act or work in isolation, but is part of a wider community that includes many stakeholders, some of which may have no technical knowledge or even education. In such circumstances the engineer must work closely with the community to not just develop safe, ethical and environmentally sustainable solutions, but to also train and educate so that communities may become self-reliant.	High

Content:

Topics may include:

- Engineering ethics
- Occupational Health and Safety in engineering
- Engineering and the environment
- Sustainability in engineering
- Engineering in industry

Assessment:

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
K1 - K6, S1 - S3, A1 - A5	Investigation and/or design assignments	Reports and/or class presentations	20% - 30%
K1, K3, S2, A1, A3	Laboratory exercises and/or site visits, guest lectures etc.	Reports	20% - 40%

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K1 - K6, S1 - S5, A1 - A5	Major Project	Major report	40% - 50%
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Adopted Reference Style:

APA

Presentation of Academic Work:

<https://federation.edu.au/students/assistance-support-and-services/academic-support/general-guide-for-the-presentation-of-academic-work>