

Course Outline (Higher Education)

Institute / School:	Global Professional School
Course Title:	PROFESSIONAL ENGINEERING
Course ID:	GPENG1001
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	039999

Description of the Course:

Professional engineers must be able to convey ideas 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. It introduces students to the need to clearly communicate and to the process of working in teams to yield an appropriate solution to an engineering problem. The course learning outcomes will be integrated through a major team challenge that forms the core of the assessment. In this course you will start your journey to becoming a competent communicator and effective team contributor and team leader.

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.** List and describe the skills which an engineer should be equipped with.
- K2.** Define the profession of engineering and its various disciplines.
- K3.** Recognise where engineers can contribute to society.

Skills:

- S1.** Communicate in a professional environment and at an appropriate level.
- S2.** Outline the principles and importance of occupational health and safety in the context of the engineering profession.
- S3.** Collaborate effectively with team members to solve a real engineering problem.
- S4.** Develop the appropriate English language and academic skills to successfully study at an undergraduate level.

Application of knowledge and skills:

- A1.** Apply theory to solve engineering problems.
- A2.** Employ 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.

Graduate Attributes

The Federation University Federation graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, S3, A1	1, 2
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	A1, A2	1, 2
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	S2	1, 2
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	S3, S4	1, 2
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	A2	1, 2

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1 - K3, S1 - S4, A1, A2	Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practise in the technology domain.	Class test/report/presentation	40 - 60%
K1 - K3, S1 - S4, A1, A2	Team-based project that will be tasked with deriving a solution to an engineering problem.	Report and presentation	40 - 60%

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](#)