Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: ENGINEERING PROJECT 1

Unit ID: ENGIN4001

Credit Points: 30.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): (ENCOR4100)

ASCED: 039999

Description of the Unit:

This course enables students to use knowledge acquired during their studies to undertake an engineering research project. In the process, students will employ hands-on, analytical and computing skills relevant to their fields of studies. Students will also survey relevant literature and present findings in front of an engineering audience.

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

Work Experience:

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

Does Recognition of Prior Learning apply to this Unit? No

Placement Component: No

Supplementary Assessment: No

Supplementary assessment is not available to students who gain a fail in this Unit.

CourseLevel:

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

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

Learning Outcomes:

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

Knowledge:

K1. Identify and select the appropriate approach to undertake an engineering research project.

K2. Demonstrate competence in critical and independent thinking.

K3. Explore and interpret the ethics and norms that guide engineering practice (including professionalism, innovation and adaptability)

Skills:

S1. Demonstrate proficiency in project management tools and concepts.

S2. Assess scientific material to effectively synthesize information and/or ideas.

S3. Demonstrate an ability to manage time and resources (independently and/or as a member of a team).

S4. Demonstrate an ability to effectively communicate (both written and oral) with others within the engineering community.

Application of knowledge and skills:

A1. Demonstrate the knowledge and skills needed to solve contemporary and emerging engineering challenges.

A2. Apply developed analytical skills to assess and infer engineering data.

Unit Content:

Topics may include:

- Production of a literature survey.
- Research questions and writing a research proposal.

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 Courses. Graduate attribute attainment typically follows an incremental development process mapped through Course progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all attributes must be directly assessed in each Course**

Graduate attribute and descriptor		Development and acquisition of GAs in the Unit	
		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, S1, S2, A1, A2	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.	K2, S2, 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.	K3, S3, A1	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.	S4, A2	1-3
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.	S1, A1	1-3

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-K3, S1, S3, S4, A1	Presentation and reporting in the early weeks of the semester on the progress, which has been achieved thus far in the research project.	Progress report	10 - 20%
K1-K3, S1-S4, A1	Report on the continuous progress of the research project	Continuous progress report and activity logs	20 - 30%
K1-K3, S1-S4, A1-A2	Demonstrable progress of a written dissertation or other modes of written work including a review of the latest developments in the field, the methodology and results of the project	Report	50 - 70%

Alignment to the Minimum Co-Operative Standards (MiCS)

The Minimum Co-Operative Standards (MiCS) are an integral part of the Co-Operative University Model. Seven criteria inform the MiCS alignment at a Course level. Although Units must undertake MiCS mapping, there is NO expectation that Units will meet all seven criteria. The criteria are as follows:

1. Co-design with industry and students
2. Co-develop with industry and students
3. Co-deliver with industry
4. FedTASK alignment
5. Workplace learning and career preparation
6. Authentic assessment
7. Industry-link/Industry facing experience

MiCS Course level reporting highlights how each Course embraces the principles and practices associated with the Co-Operative Model. Evidence of Course alignment with the MiCS, can be captured in the Course Modification Form.

MICS Mapping has been undertaken for this Unit No

Date:

Adopted Reference Style:

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

Refer to the library website for more information

Fed Cite - referencing tool