Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: Engineering Capstone Project 1

Unit ID: ENGRG4002

Credit Points: 15.00

Prerequisite(s): (At least 300 credit points from course EN8)

Co-requisite(s): Nil

Exclusion(s): (ENGIN4001)

ASCED: 039999

Description of the Unit:
This unit 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 the form of a report and 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.

Placement Component: No

Supplementary Assessment: No

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

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. 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. Investigate published material relevant to engineering problems.

A2. Construct a research plan.

A3. Demonstrate the knowledge and skills needed to solve contemporary and emerging engineering challenges.

A4. 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.
- Databases for research and literature management

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-K3, S1-S4, A1, A2, A3	Develop understanding of research approaches; identify possible research topics and explore and review list of references; develop/choose suitable methodology; prepare and present reserach project and proposed methodology	Research proposal presentation	10% - 30%
K1-K3, S1-S4, A3	Report on the continuous progress of the research project	Continuous progress report and activity logs	20% - 40%
K1-K3, S1-S4, A1-A4	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%

Adopted Reference Style:

IEEE

Refer to the library website for more information

Fed Cite - referencing tool