



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)
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Work Experience:

No work experience

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:



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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:

- 1. Production of a literature survey.
- 2. Research questions and writing a research proposal.
- 3. 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:



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IEEE

Refer to the <u>library website</u> for more information

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