Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	UNDERSTANDING RELIABILITY
Unit ID:	MREGC5102
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	031399

Description of the Unit:

This unit introduces important theories and key concepts of reliability with application towards industrial and infrastructure problems in engineering. It covers reliability principles, tools and techniques and approaches for a range of issues related to reliability strategies and practices for any product and/or engineering assets. The unit also covers the application of the foundational understanding of reliability within the workplace for physical assets and society.

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 Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

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. Summarise the latest reliability practices and describe specific aspects of legacy reliability practices.

K2. Source the relevant literature for reliability engineering in order to classify and explain various reliability terms, definitions and standards.

K3. Outline good governance and management practices for reliability engineering.

Skills:

S1. Review and critique reliability programs, plans and tasks.

S2. Develop change programs to influence workplace culture on reliability matters.

S3. Set-up an integrated organisation for reliability.

S4. Assess impact of through life reliability practices.

Application of knowledge and skills:

A1. Interpret reliability problems and how to solve them.

A2. Examine the importance of integrated reliability policies, plans and practices; and champion their implementation in the work place.

A3. Model opportunities for innovation through reliability.

Unit Content:

This unit covers reliability principles, tools and techniques and approaches for a range of issues related to reliability strategies and practices for any product and/ or engineering assets.

Topics may include:

- Introduction to reliability.
- Reliability in management and quality control.
- Reliability in design.
- Reliability, Maintainability and Availability.
- Reliability prediction and modelling.
- Reliability testing.
- Managing and solving reliability problems.

Learning Task and Assessment:

This 15 CP online unit at postgraduate level requires a minimum time commitment of 150 hours of study. Assessments need to be submitted online in assessment submission area

allocated for each assessment.

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, S1, S2, S3, S4, A1, A2, A3	Analysis and report on reliability policy and plan.	Analysis and report.	20% to 40%
K1, K2, K3, S1, S2, S3, S4, A1, A2, A3	Analysis of data applying reliability tools and report on decision for solving reliability problems.	Analysis and report.	20% - 40%
K1, K2, K3, S1, S2, S3, S4, A1, A2, A3	Examination or on-line test.	Examination or on-line test.	60% to 40%

Adopted Reference Style:

Other (IEEE)

Refer to the library website for more information

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