



Course Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Course Title: MINE POWER AND SERVICES TECHNOLOGY

Course ID: ENGIN2501

Credit Points: 15.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): (ENMIN5100 and ETMIN2260)

ASCED: 030303

Description of the Course:

This course introduces students to different electrical and hydraulic power systems for mines such as, compressed air and diesel generators and mine water and the different dewatering techniques used in surface and underground mines.

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

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

Knowledge:

- K1.** Demonstrate the principles and practice of mine utility supply and distribution.
- K2.** Interpret the nature, occurrence and methods to deal with water.
- K3.** Interpret the processes and appreciate the importance of mine de-watering.

Skills:

- S1.** Select and evaluate drainage systems for a mine.
- S2.** Select and evaluate power systems for a mine.

Application of knowledge and skills:

- A1.** Develop a detailed design in relation to mine power systems.
- A2.** Develop a detailed design in relation to mine drainage systems.

Course Content:

Topics may include:

- Mine Dewatering: - The occurrence of ground water, surface water and mine water; - Quantitative and qualitative measurement of water; - Mine dewatering systems for both surface and underground; and - Prevention of inflow and mine flooding.
- Power Supply: - Electrical; - Compressed air; - Hydraulic; and - Diesel.

Values:

- V1.** Understand how appropriate power, water supply and water drainage contribute to the optimisation of production in the most economical and environmentally responsible manner.

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-K3, S1, S2, A1, A2	A selection of tutorial and design problems will be used throughout the course.	A combination of assessed tutorials and assignments.	20 - 30%
K1-K3, S1, S2, A1, A2	Practical exercises undertaken in the field and/or laboratory.	A written report.	20 - 30%
K1-K3, S1, S2, A1, A2	An examination or test on any or all of the material covered in the course.	Examination/test	40 - 60%

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](#)