Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: UNDERGROUND PRODUCTION SYSTEMS

Unit ID: ENGIN5512

Credit Points: 15.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): (ENMIN5130)

ASCED: 030303

Description of the Unit:
This unit qualifies participants to apply an advanced body of knowledge in the area of underground mining and equips them with highly developed skills for research and enquiry. Students enrolled in this unit will be able to apply the body of knowledge to a range of contexts within the mining industry enabling them to undertake professional or highly skilled work within the mining industry and allow them to undertake further study.

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:

Knowledge:

K1. Outline the conditions to set up a new mine.

K2. Recall commonly used underground mining methods.

K3. Discuss key parameters/factors used in determining which production system should be used.

K4. Analyse the effect of dilution on profitability and the relationship between dilution and recovery.

K5. Account for the major equipment and major development requirements for each underground mining method.

Skills:

S1. Appraise, consolidate and synthesise knowledge and identify and provide solutions to complex underground mining problems.

S2. Compare technically feasible mining methods for a mineral deposit.

S3. Select appropriate tools, which may include computer software, to solve problems in underground mining.

S4. Select major equipment and major mine developments required for the commonly used mining methods.

Application of knowledge and skills:

A1. Assess a mineral deposit and recommend technical feasible mining methods.

A2. Plan the mine developments required for an underground mining system, and recommend the major equipment required.

Unit Content:

Topics may include:

- Setting up a new mine.
- Optimal selection of an underground production system.
- Mining methods, infrastructure requirements and impact on mine service requirements.
- Mining methods resource requirements.

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-5, S1-4, A1	AT1-2: Numerical and conceptual tasks	Written assignments	30-40%
K1-5, S1-4, A1-2	AT3: Design Project	Written design project report	40-60%
K2-5, S1-4, A1-2	AT4: Underground mine site report	PowerPoint Presentation	10-30%

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