



Course Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Course Title: MATERIALS HANDLING AND HOISTING

Course ID: ENGIN5513

Credit Points: 15.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): (ENMIN5140)

ASCED: 030303

Description of the Course:

This course qualifies participants to apply an advanced body of knowledge in the area of surface and underground loading, haulage and hoisting and equips them with highly developed skills for research and enquiry. Students enrolled in this course 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 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"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:
Knowledge:

- K1.** Interpret materials handling and hoisting systems used in surface and underground mining.
- K2.** Demonstrate cycle time calculations within materials handling.
- K3.** Identify the interaction between different materials handling systems.

Skills:

- S1.** Select appropriate systems for the various types of mineral deposits in varying conditions.
- S2.** Assess materials handling and hoisting systems.
- S3.** Select appropriate tools to solve problems in materials handling.
- S4.** Partition materials handling and/or hoisting systems.

Application of knowledge and skills:

- A1.** Plan a materials handling and/or hoisting system for a underground mining system, and conceptualize the major infrastructure and equipment required.
- A2.** Design and optimise a materials handling and/or hoisting system as a core part of mine planning to facilitate the requests of mining production, mine ventilation and services.

Course Content:

Hoisting, Underground Rail, Trackless Mining, Conveyors, Pipeline Systems, Pneumatic Systems.

Topics may include:

- Selection of appropriate materials systems for differing mining systems.
- Design features, design calculations accounting for the whole cycle of operations and system optimisation.
- Interaction between different materials handling systems, determination of storage requirements.
- Planning materials handling systems.
- Tracked or fixed haulage systems comparison with trackless methods, which is the optimal choice.
- Automation of mine materials handling systems, available and future systems.

Values:

- V1.** Appreciate the significance of a mine transport system.
- V2.** Appreciate the significance of matching materials handling equipment with the production rate.

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-3, S1-4	Numerical and conceptual tasks related to the learning outcomes of this course.	Written assignments	50-60%
K1-3, S1-4, A1-2	Design a materials handling or hoisting system for a mining method, or a component of the system	Desing report	40-50%

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](#)