



THE BUSINESS OF UNDERGROUND COAL MINING

PROFESSIONAL DEVELOPMENT COURSE

PURPOSE

The aim of this course is to provide professionals and para-professionals who interact within the underground coal mining business with a foundational understanding of the fundamentals of underground coal mining. As a result of attending this course participants will gain a clear understanding of both the technical and operational aspects of an underground operation. The course pays particular attention to strategic planning processes and provides attendees with a clear insight into the business drivers for underground mines.

WHO SHOULD ATTEND?

The course is aimed at professionals, para-professionals and line management who interact with underground operations at a business, technical or operational level. The course is also designed to meet the needs of graduates and technical staff who may be considering a career in the underground sector.

PRE-REQUISITE SKILLS

- Attendees should have an understanding of the wider mining business or have completed Runge's Mining for Non Miners Coal Course.
- A general appreciation of underground coal mining operations would be an advantage.

DURATION

2 Days

DATES & LOCATIONS

This course is delivered regularly at a variety of international venues. For further information please refer to the [Calendar](#) section of this web site www.runge.com

LEARNING OUTCOMES

At the completion of this course participants will:

- Understand the financial and technical drivers that impact an underground asset
- Understand how strategic planning processes add value to underground operation
- Be able to critically assess the choice of mining method for a given deposit
- Appreciate the technical challenges (geotechnical, ventilation & gas) faced by underground operations, and actions typically taken to mitigate technical risks.

DELIVERY METHOD

Runge's Professional Development courses are presented through an interactive classroom-style delivery, utilising numerous case studies throughout the course. These are supplemented with a variety of multi-media presentations and practical hands-on workshops, ensuring maximum attendee participation to optimise the learning experience.



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COURSE CONTENT

Module 1: Introduction

- Course overview
- Health & safety
- Coal mining globally & locally
- Performance & technology
- Australian resource base
- Asset value process

Module 2: Geology & Exploration

- Coal geology
- Coal types and properties
- Exploration process, methods and costs
- Coal geology modelling
- Geological considerations for mine design
- JORC - Resource & Reserves reporting

Module 3: Mining Systems

- Bord & pillar
- Longwall operation
- Alternative systems
- Equipment
- Capital estimation

Module 4: Mine Planning

- Strategic planning process
- Concept planning
- Feasibility process
- Mine layout
- Equipment scheduling
- Strategic margin ranking

Module 5: Geotechnical

- Geotechnical assessments
- Fundamental ground support design considerations, development & longwall
- Geotechnical Inputs in mine design
- Factors that impact on mine operability
- Multi-seam longwalls

Module 6: Ventilation & Gas

- Australian coal seam gas reservoirs
- Managing uncertainty
- Effective ventilation & gas planning
- Coal seam gas drainage
- Managing the issues
- Ventilation & gas economics

Module 7: Engineering Services & Short Term Planning

- Underground mine access options
- Typical equipment requirements
- Coal clearance systems
- Equipment selection
- Mining services
- Effective production & maintenance planning

Module 8: Health & Safety

- Underground hazards and risks
- Health & safety statistics
- Managing business risks
- Incident case study
- Incident investigations

Module 9: Financial Assessments

- Underground cost and revenue drivers
- Capital requirements for a new operation
- Financial tools to evaluate plans
- Financial analysis to decide between options