

Informa Connect

Academy



Exploration, Mining and Processing Fundamentals

The Essential Techno-Commercial Introduction to Mining

LIVE ONLINE TRAINING | 16 - 19 April 2024 | 17 - 25 October 2024

FACE TO FACE TRAINING | 14 - 15 March 2024 • Perth | 16 - 17 May 2024 • Brisbane | 14 - 15 November 2024 • Sydney | 3 - 4 December 2024 • Perth



Attend In-Person or Live Digital

REGISTER NOW

www.informaconnect.com/academy

Course Information

Live Online Training	April 2024								
	Part1	16 Apr	Part2	17 Apr	Part3	18 Apr	Part4	19 Apr	1pm - 5pm AEST
	October 2024								
	Part1	17 Oct	Part2	18 Oct	Part3	24 Oct	Part4	25 Oct	1pm - 5pm AEDT

Face to Face Training	PERTH	14 - 15 March 2024 3 - 4 December 2024
	BRISBANE	16 - 17 May 2024
	SYDNEY	14 - 15 November 2024

Key Learning Objectives

- Understand the make-up of the Australian mining industry
- Discover mine exploration techniques
- Understand mine geology and ore body modelling
- Analyse resource/reserve estimation and statutory requirements: JORC
- Learn about mine planning and mine start-ups
- Analyse mining methods, processes and practices – surface and underground
- Understand mine closures, environmental, safety and legal considerations
- Comprehend corporate governance, industry challenges and the future

Course Overview

Build your knowledge and confidence in the mining business lifecycle and its technical jargon in this mining exploration training course. Examine its technical and commercial components spanning exploration, geology, mining methods, production, and processing.

About the Course

This mine exploration and processing training programme will provide a new or relatively new entrant into the mining industry with a clear understanding of the fundamentals of mine exploration, the workings and technical components of mining in general and its application in the Australian and global industry.

Participants will gain an understanding of mine geology and learn about the technical aspects of mining, including exploration methods, resource estimation, surface mining, underground mining, mine planning, mining methods, and mine closures.

Participants will gain a sound understanding of mine safety and regulations. They will also learn the terminology used within the industry and gain knowledge on the motivation and factors that influence the technical and broader industry personnel with whom they interact on a day-to-day basis.

For those who need to become experts in the mining industry, this mine planning training programme will provide a fundamental background and starting point and improve communication and negotiation with peers and stakeholders.

Who Will Benefit

This mining, exploration and processing training is not a basic-level introductory course. It has a specific techno-commercial focus for technical and business-oriented professionals who are either new to the mining industry or experienced in one part but could benefit from a wider perspective.

- New employees who need a good basic understanding/overview
- Mid-level employees who have recently transferred within the industry
- Bankers, lawyers, government employees, consultants, directors, and other industry participants

Meet Your Course Director



Richard Durham

Richard has over 31 years experience in the mining industry and holds a PhD and a degree in Mining from the Royal School of Mines, Imperial College, London.

He worked for several years for Datamine, initially as a consultant and then as general manager, helping produce advanced modules such as stratigraphical unfolding and mining zone modelling. Richard's experience also includes working for small technical consultancies and as an individual consultant. In those roles he has been involved in many mining projects, and in commodities including gold, nickel, iron, mineral sands, lead, zinc and coal.

Richard's field of expertise is in the practical application of technical software and hardware to mining, particularly in mine design, resource and reserve modelling, geostatistics and grade control.



"An excellent in-depth overview of the mining industry. I learnt about challenges and complexities faced by the mining industry and now understand my client perspectives better."

Senior Consultant – Strategy, IBM Australia

"Topics covered were extremely relevant and covered in sufficient detail to be of benefit. Material (including CD) is a useful reference to take away. The use of videos are very instructive."

Finance Manager, BHP

Course Outline

OVERVIEW OF THE AUSTRALIAN MINING INDUSTRY

- Overview of the location of different mineral resources in Australia and their general mining methods
- The importance of mining to Australia and its financial impact
- Roles, responsibilities and relationships of technical staff – geologists, engineers, metallurgists, geotechnical engineers
- The who and where of Australian mining and exploration companies
- General mining industry terminology and definitions
- The different stages of a mining project from discovery to completion

GEOLOGY

- What's a mineral?
- What's a rock?
- Examining the three main types of rocks and their creation
- Exploration techniques
- Mineral exploration – how to select where to explore based on geological and non-geological factors

OREBODY MODELLING

- Overview of orebody modelling, its role in mining – why it's done and what it achieves
- Limitations of modelling

- Grade estimation
- Geostatistics
- Conditional simulation

RESOURCE/RESERVE ESTIMATION AND STATUTORY REQUIREMENTS

- Reporting resources and reserves to the Stock Exchange
- The Joint Ore Reserve Committee (JORC)

Activity: Defining a mineral resource

SURFACE MINING – OPEN PIT MINING

- Overview of open pit mining. Why open pit?
- Examining the different surface mining equipment and their uses, including:
 - Trucks and shovels
 - Excavators
 - Front-end loaders
 - Surface miners
 - Trolley assist
- Drilling and blasting
- Case examples of open pit operations

Activity – Productivity calculation of an open pit mine

EXAMINING THE OPEN PIT MINING CYCLE

- Grade control
- The role of geologists in production

Course Outline

OTHER SURFACE MINING METHODS

- Strip mining
- Bucket wheel excavators
- Draglines
- Scrapers
- Dredging
- Hydraulic mining
- Materials handling on an open pit mine– conveyors, trains
- Mining method selection – how are different methods selected?
- Case examples of different mining methods
- Environmental issues associated with surface mining

UNDERGROUND MINING

- Examining underground mining methods and layouts
- Cut and fill
- Room and pillar
- Open stoping
- Caving
- Longwall
- Backfill
- Recovery
- Dilution
- Mining method selection
- Underground mine development
- Stope blasting
- Development blasting
- Remote controlled equipment
- Ventilation
- Dewatering
- Materials handling
- Ore passes
- Ground and strata control
- Overview of underground equipment

- Jumbos
- Raise-borers
- Case examples of different mining methods

Activity: Choosing an underground mining method

MINE PLANNING

- Explanation of mine planning and its role in the mining process
- What is ore and what is waste – cutoff grades
- The importance of selectivity
- Pit optimisation
- Lerchs-Grossman
- Whittle
- Scheduling – selecting the best order in which to extract a deposit
- Measuring the quality of the rock
- Shafts vs. declines
- Stockpiling, blending and storage of minerals
- Contractor vs. owner operator – how and why do you make the decision?
- Infrastructure – FIFO
- Mineral resources vs. ore reserves
- How much to spend on exploration

Activity: Cutoff and scheduling

MINERAL PROCESSING

- What is mineral processing? What is its role in the mining process?
- Comminution
- Overview of a comminution circuit
- Crushing, grinding – exposing the mineral
- Mine to mill optimisation

- Why are different ores ground in different ways?
- Examining comminution equipment
- Jaw crushers
- Cone crushers
- Gyratory crushers
- Ball mills
- Rod mills
- SAG and AG mills
- Wet vs. dry grinding
- Bond Work Index

MINERAL PROCESSING CONTINUED

- Examination of separation methods to extract minerals
- Gravity concentrators
- Spiral concentrators
- Cyclones
- Flotation
- Hydro-metallurgy
- Pyro-metallurgy
- Bio-leaching
- Tailings storage facilities
- Discharge methods
- Upstream, downstream and centreline construction
- Daywall dam
- Case examples of different processing circuits

INDUSTRY CHALLENGES & THE FUTURE

- The image of mining
- Sustainability
- Legislation
- Shortage of trade and technical staff
- Remote controlled equipment
- Undersea mining
- Continuous mining equipment

Exploration, Mining and Processing Fundamentals

Easy Ways to Register



www.informaconnect.com/academy



+61 (02) 9080 4399



training@informa.com.au

Exploration, Mining and Processing Fundamentals

Course Code	Location/ Format	Course Parts	Course Dates	Standard Price		Great Savings: When you book 4 or more participants! Call us today on +61 (2) 9080 4399 or email training@informa.com.au to take advantage of the discount offer.
P24GR13AU02V	Live Digital	All 4 Parts	16 - 19 April 2024	\$2,395 + \$239.50 GST	\$2,634.50	
P24GR13AUV	Live Digital	All 4 Parts	17 - 25 October 2024	\$2,395 + \$239.50 GST	\$2,634.50	

Course Code	Location/ Format	Course Dates	Early Bird price valid until		Standard price valid after		Great Savings: When you book 4 or more participants! Call us today on +61 (2) 9080 4399 or email training@informa.com.au to take advantage of the discount offer.
			PE - 23 Feb 24		PE - 23 Feb 24		
			BR - 26 Apr 24		BR - 26 Apr 24		
			SY - 25 Oct 24		SY - 25 Oct 24		
			PE02 - 15 Nov 24		PE02 - 15 Nov 24		
P24GR13PE	Perth	14 - 15 March 2024	\$2,995.00 + \$299.50	\$3,294.50	\$3,095 + \$309.50 GST	\$3,404.50	
P24GR13BR	Brisbane	16 - 17 May 2024	\$2,995.00 + \$299.50	\$3,294.50	\$3,095 + \$309.50 GST	\$3,404.50	
P24GR13SY	Sydney	14 - 15 November 2024	\$2,995.00 + \$299.50	\$3,294.50	\$3,095 + \$309.50 GST	\$3,404.50	
P24GR13PE02	Perth	3 - 4 December 2024	\$2,995.00 + \$299.50	\$3,294.50	\$3,095 + \$309.50 GST	\$3,404.50	

Terms, Privacy Policy & Updating Your Details: Please visit us at www.informaconnect.com/terms-and-policies for terms and conditions and privacy policy.

Database amendments can be sent to database@informa.com.au or call **+61 (2) 9080 4399**.

ABOUT INFORMA CONNECT ACADEMY

Informa Connect

Academy

Informa Connect Academy is a premier provider of global education and training solutions that caters to a diverse range of professionals, industries, and educational partners. We are dedicated to promoting lifelong learning and are committed to offering learners expert guidance, training, and resources to help them stay competitive in a rapidly changing world.

Our comprehensive range of courses and programmes are tailored to meet the needs of all professionals, from aspiring specialists to seasoned experts. We partner with elite academic organisations and industry leaders with unmatched expertise in their respective fields to deliver an exceptional learning experience.

ON-SITE & CUSTOMISED TRAINING

Informa Connect Academy has a long-standing track record of delivering very successful customised learning solutions achieving real and measurable value for our clients through our senior training consultants. If you have 8+ interested people, an on-site course can be the ideal solution – giving you the opportunity to customise our course content to your specific training needs, as well as attracting significant savings compared to public course costs.

WHY CHOOSE ON-SITE WITH INFORMA CONNECT ACADEMY?

- 1. Custom design** – Together, we will identify the best blended learning solution for your culture, your people and your training objectives.
- 2. Quality assured** – We design market-leading training programs, concepts and methodologies, with a 400+ course portfolio. Our rigorously selected 900+ instructor faculty are recognised experts in their field. Quality of their content and delivery methods is assured through continuous monitoring and evolution.
- 3. On-site training** is a cost effective way to train your people and achieve your defined outcomes.

Speak with **Sushil Kunwar** on **+61 (2) 9080 4370** to discuss your customised learning solution, or email inhouse@informa.com.au