AusIMM Courses

Mine Electrification

ASSOCIATE CERTIFICATE

ZERO NEXUS



Drive decarbonisation, boost operational efficiency, and lead your minesite into a zero-emissions future.

Course overview

Explore the technical, operational, and strategic aspects of implementing Battery Electric Vehicles (BEVs) in mining. This industry-aligned, 5-week online course is designed for professionals at all levels—from early-career engineers to corporate leaders—who are involved in planning, deploying, or managing electrified fleets. Through four comprehensive modules, you'll gain insights into mine electrification drivers, BEV systems and infrastructure, battery safety, change management, and business case development. You'll walk away with actionable strategies and case study examples to apply immediately in your role.

- No prior mine electrification experience required
- Flexible online delivery
- Digital certificate on completion

Why this course matters

Electrification is transforming the mining industry, offering benefits such as reduced emissions, improved safety, and operational efficiency. This course is designed to:

- Clarify the drivers and technologies behind mine electrification
- Enhance understanding of BEV integration and infrastructure requirements
- Support strategic planning and change management for electrified operations
- Strengthen safety protocols and regulatory compliance

Who should enrol?

This course is ideal for professionals involved in mine planning, operations, safety, or strategic transformation, including:

- Mine-site managers, operations supervisors, and corporate leaders driving decarbonisation
- Engineers, planners, and early-career professionals involved in mine design and fleet integration
- Safety, compliance, and emergency response teams ensuring regulatory readiness and risk mitigation

PD hours
22 hours

Delivery
100% online

Duration
5 weeks

Certificate
Digital credential

Pricing

Member $1,804
Non-member $2,200

Prices are in Australian dollars and are inclusive of 10% GST

Discounts available when 3 or more participants book together.

Scan for more information

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What you'll learn

Develop practical knowledge and skills in:

- Developing a BEV integration strategy, including maintenance, safety, workforce training, supply chains, and risk assessments
- Implementing organisational change management techniques to drive cultural and process transformation
- Understanding BEV technology, mine design adaptations, battery infrastructure, and troubleshooting
- Creating comprehensive safety and emergency response plans for BEVs
- Ensuring regulatory alignment across training, PPE, and risk mitigation frameworks

Career outcomes

- Operational Strategist: Lead fleet transformation projects and electrification strategy
- Mine Design Innovator: Adapt underground and surface mine plans to accommodate electric fleets
- Compliance and Safety Specialist: Ensure alignment with evolving safety regulations
- Sustainability Champion: Contribute meaningfully to ESG goals and decarbonisation mandates
- Technical Advisor or Consultant: Support decision-making for BEV implementation and feasibility

Organisational benefits

- Improve safety and environmental performance through electrification
- Ensure compliance with emerging regulations and standards
- Reduce operational risks and potential liabilities
- Enhance reputation and stakeholder trust through sustainable practices.

Lead the electrification revolution

Electrification is not just a trend—it's the future of mining. This course equips professionals with the knowledge and tools to lead the transition confidently and effectively.

Don't let the electrification wave pass you by. Upskill yourself or your team with a course that delivers clarity, confidence, and career advancement.

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Facilitators

See full facilitator profiles on our course page.



David Lyon
Founder and President of Zero Nexus



Edward Fagan
Associate Partner, Zero Nexus

Mine Electrification modules

1 Introduction to mine electrification

This module describes the drivers of electrification in mining, the main technologies underlying this transition, the benefits and challenges BEVs bring to mining and the regulatory landscape.

Topics covered:

1. Overview of Mining Electrification
2. The BEV Technology Landscape
3. Benefits of BEVs in Mine Electrification
4. Challenges of BEV's in Mine Electrification

2 BEV technology in mining operations

This module explains the core components and systems behind BEV technology and how to integrate BEVs into mine plans, supported by case studies.

Topics covered:

1. Key components in BEV technology
2. BEV Infrastructure and Human Capital
3. Integrating BEVs into Mining Operations
4. Mine Design Changes for BEVs
5. Case Studies on Trialing new BEVs

3 Battery technology and safety

This module covers the fundamentals of lithium-ion battery technology and the key safety considerations for safe handling, maintenance and management of batteries over their lifetime.

Topics covered:

1. Fundamentals of Battery Technology
2. Introduction to Lithium-Ion Battery Safety
3. Battery Handling and Maintenance
4. Risk Management & Emergency Preparedness
5. Battery Lifecycle Management

4 Change mapping and strategic planning

This module provides a structured approach to building the business case for BEVs in mining, estimating the financial impacts of the innovation and planning/managing the change process.

Topics covered:

1. BEV Business Case Development
2. Fleet Costs and Financing
3. Planning and Managing Change
4. Assessing and Managing Risks