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COURSE BROCHURE

# Mine Hazard Identification and Critical Control Management Training Course

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Singapore

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Registered in the United Kingdom and Saudi Arabia

# Mine Hazard Identification and Critical Control Management Training Course

**Ref:** 3163_120158 **Date:** 16 – 20 August 2027 **Location:** Singapore **Fees:** 6900 GBP

Mine Hazard Identification and Critical Control Management is a 1-week training course for mine supervisors, safety officers and site engineers who must find fatal hazards in open pit and underground workings and keep the controls that stop them working, ending with a site critical control register. Ground failure, vehicles, dust and explosives still cause most serious mining harm. Jupiter Prime Training offers this course on mine hazard identification and critical control management.

## Why Mine Hazard Identification and Critical Control Management Matters Now

Three forces shape this subject today. Deeper pits and longer drives put more people and machines in the same space. Investors, insurers and communities ask operators to show which controls prevent a fatality and how often they are checked. Rotating rosters weaken local hazard knowledge. A mine that verifies its controls catches drift early; one relying on paperwork learns after a fatality. The course rests on the bow-tie approach to linking causes, events and consequences.

## Who Gains Most from Mine Hazard Identification and Critical Control Management

- People who lead shift crews and sign off pre-start checks
- People who run inspections and investigate events
- People who design ground support, ventilation and blasting
- People who plan isolation for loaders, trucks and drills
- People who coordinate contractor crews in active areas

A mine gains most when a supervisor, safety officer and engineer from one pit attend together.

## Mine Hazard Identification and Critical Control Management Capabilities

Participants move from spotting an energy source to proving its barrier works.

- Assess hazards by energy source for ground, vehicles, dust and explosives — the shift supervisor deciding where crews may enter
- Build bow-tie diagrams that separate preventive and mitigating barriers — the site engineer choosing which barriers are critical
- Specify performance standards for each critical control — the control owner who must keep it effective
- Design field verification checklists and frequencies — the safety officer planning inspection rounds
- Test control failures through incident and near-miss learning — the mine manager approving corrective actions
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Communicate residual exposure and open control gaps — the operations leadership deciding resource priorities

## Key Mine Hazard Identification and Critical Control Management Terms

- Material unwanted event — an incident that could cause a fatality or permanent disabling injury.
- Critical control — a barrier whose absence or failure would greatly raise the likelihood of a material unwanted event.
- Bow-tie diagram — a picture linking causes, the central event and consequences, with barriers placed on each side.
- Performance standard — the condition a control must meet to be judged effective.
- Field verification — a planned workplace check that a critical control is present and working.
- Trigger action response plan — a set of predefined actions crews take when a monitored reading crosses a set level.

## Mine Hazard Identification and Critical Control Management Day by Day

## Day 1: Energy Sources and Fatal Hazards in Mining

- Energy Source Hazard Mapping — Locating Fatal Exposure in Pits and Declines
- Material Unwanted Event Selection — Deciding Which Events Deserve Critical Controls
- Ground Failure Mechanisms in Benches, Walls and Backs — Exclusion Zone Decisions
- Open Pit Versus Underground Exposure Profiles — Prioritising Crew Protection
- Pre-Start Hazard Checks and Take-Five Cards — Shift-Level Stop or Proceed Choices

## Day 2: Mobile Equipment, Dust and Explosives

- Light and Heavy Vehicle Interaction Layouts — Separation, Berms and Right of Way
- Collision Avoidance and Proximity Detection Systems — Operator Reliance Limits
- Respirable Dust and Silica Exposure Sampling — Ventilation and Suppression Choices
- Blast Design, Clearance and Misfire Handling — Guarding and Re-Entry Decisions
- Explosives Storage, Transport and Magazine Records — Accountability for Every Charge

## Day 3: Risk Assessment and Critical Control Selection

- Bow-Tie Construction for a Wall Collapse Event — Preventive Versus Mitigating Barriers
- Control Hierarchy From Elimination to Personal Protection — Choosing Stronger Barriers
- Critical Control Criteria and Selection Tests — Separating Barriers From Supporting Activities
- Performance Standards With Owners and Frequencies — Measurable Control Effectiveness
- Trigger Action Response Plans for Ground and Gas Readings — Crew Withdrawal Rules

## Day 4: Field Verification and Incident Learning

- Verification Checklists Written for the Workplace — Present, Working and Understood
- Planned Task Observations on Isolation and Lockout — Supervisor Coaching Choices
- Control Failure Investigation and Causal Trees — Fixing Barriers Rather Than Blaming People
- High-Potential Near-Miss Reporting — Early Signals of Barrier Decay
- Contractor Onboarding and Permit to Work Interfaces — Shared Control Ownership

## Day 5: Practising the Site Critical Control Register

- Underground Decline Case — Applying Day 1 Hazard Mapping and Day 3 Bow-Ties
- Copper Pit Haul Road Case — Applying Day 2 Vehicle Separation Choices
- Quarry Blast Clearance Case — Applying Day 4 Verification Checklists
- Control Health Reporting to Mine Leadership — Ranking Open Barrier Gaps
- Completed Site Critical Control Register — Owners, Standards and Verification Rounds

## Applying Mine Hazard Identification and Critical Control Management After the Course

- Lead a bow-tie session with one crew for its highest ranked event and agree critical control owners
- Verify three critical controls on a live shift and log any failed barrier with a corrective action

## Mine Hazard Identification and Critical Control Management Questions FAQ

### What is mine hazard identification and critical control management and why does it matter now?

It is finding the hazards that can kill in a mine and keeping their barriers checked. It matters now because deeper workings and contractor crews raise exposure.

### Which roles gain most from mine hazard identification and critical control management?

Shift supervisors, safety officers and site engineers gain most, because they write the standards and carry out the field checks.

### How does mine hazard identification and critical control management differ from a general workplace safety course?

It concentrates on fatal mining events such as wall collapse and vehicle collision. A general workplace safety course covers everyday hazards across many industries.

## What do you bring back from mine hazard identification and critical control management training?

You bring back a register of your site's fatal events, their critical controls, owners and verification rounds.

## Mine Hazard Identification and Critical Control Management: The Way Forward

The site critical control register first informs which barriers receive verification on every shift and which need engineering upgrades. Supervisors brief crews from it, safety officers plan rounds and engineers rank design changes. After a quarter of checks, revisit which controls failed most and whether each stays critical.