Ore Loss Minimization Techniques Training Course

Professional Development Training Course Outline

Category	General Training	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Ore Loss Minimization Techniques Training Course is designed to equip mining professionals with advanced strategies for reducing ore dilution, maximizing resource recovery, improving mine-to-mill efficiency, and enhancing operational profitability. In today's highly competitive mining environment, organizations are increasingly focused on digital mining transformation, sustainable mining practices, operational excellence, real-time data analytics, smart blasting technologies, geometallurgy integration, resource optimization, and cost-efficient extraction methods. This course delivers practical knowledge and industry-driven solutions to address critical challenges associated with ore losses across surface and underground mining operations.

Participants will gain deep insights into selective mining techniques, precision drilling and blasting, ore tracking systems, grade control optimization, AI-driven mining analytics, fleet management technologies, reconciliation systems, mine planning optimization, predictive maintenance, production monitoring, and risk-based mining decision-making. Through interactive case studies, real-world operational scenarios, and best-practice frameworks, attendees will develop the capability to implement measurable ore loss reduction strategies that improve productivity, increase recovery rates, minimize operational waste, and strengthen sustainability performance across the mining value chain.

Programme Curriculum

Ore Loss Minimization Techniques Training Course

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Course Duration

5 days

Course Objectives

1. Understand advanced Ore Loss Reduction Strategies in modern mining operations.
2. Develop expertise in Grade Control Optimization techniques.
3. Apply Digital Mining Technologies for ore tracking and reconciliation.
4. Improve Mine-to-Mill Integration for operational efficiency.
5. Implement Smart Drilling and Blasting Solutions to minimize dilution.
6. Analyze Geological Modeling and Resource Estimation methods.
7. Utilize AI and Data Analytics in Mining Operations.
8. Strengthen Production Monitoring and Operational KPIs.
9. Enhance Selective Mining and Ore Recovery Techniques.
10. Apply Risk Management and Predictive Mining Analytics.
11. Improve Sustainable Mining and ESG Performance initiatives.
12. Optimize Underground and Open Pit Extraction Methods.
13. Develop practical solutions for Operational Excellence and Cost Reduction.

Target Audience

1. Mine Managers
2. Mining Engineers
3. Geologists and Resource Geologists
4. Production Supervisors
5. Drill and Blast Engineers
6. Mineral Processing Professionals
7. Planning and Scheduling Engineers
8. Operations and Technical Services Personnel

Course Modules

Module 1: Fundamentals of Ore Loss Management

- Principles of ore loss and dilution control
- Causes of ore losses in mining operations
- Economic impact of ore losses
- Ore recovery performance indicators

- Industry best practices in ore control
- **Case Study:** Analysis of ore dilution reduction in a large-scale open pit copper mine.

Module 2: Grade Control and Geological Modeling

- Grade control methodologies
- Geological data interpretation
- Resource estimation techniques
- Ore boundary definition methods
- Real-time geological monitoring systems
- **Case Study:** Implementation of advanced grade control systems in a gold mining operation.

Module 3: Drilling and Blasting Optimization

- Precision drilling technologies
- Smart blasting systems
- Blast fragmentation optimization
- Reducing overbreak and underbreak
- Digital blast monitoring tools
- **Case Study:** Blast optimization strategies reducing ore dilution in underground mining.

Module 4: Selective Mining Techniques

- Selective extraction methodologies
- Equipment selection optimization
- High-precision excavation methods
- Ore segregation techniques
- Minimizing waste extraction
- **Case Study:** Selective mining success in narrow-vein mining operations.

Module 5: Ore Tracking and Reconciliation

- Ore tracking technologies
- RFID and GPS mining applications
- Production reconciliation systems
- Real-time fleet management integration
- Data-driven decision-making tools
- **Case Study:** Digital ore tracking implementation improving recovery rates.

Module 6: Mine-to-Mill Optimization

- Mine-to-mill integration principles
- Crushing and grinding optimization
- Feed variability management
- Process recovery enhancement
- Production bottleneck analysis
- **Case Study:** Integrated mine-to-mill optimization in a platinum mining project.

Module 7: Data Analytics and Smart Mining

- AI applications in mining
- Predictive analytics for ore recovery

- Digital twin technologies
- Mining automation systems
- KPI dashboards and reporting tools
- **Case Study:** AI-powered predictive ore recovery analytics in modern mining.

Module 8: Sustainable Mining and Operational Excellence

- ESG-focused mining practices
- Sustainable resource utilization
- Energy-efficient mining systems
- Risk management frameworks
- Continuous improvement strategies
- **Case Study:** Operational excellence transformation in a multinational mining company.

Training Methodology

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

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