# Mine Production Systems Training Course

Professional Development Training Course Outline

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

## Course Introduction

The Mine Production Systems Training Course is designed to equip mining professionals with advanced capabilities in integrated mine production planning, operational optimization, and digital mining systems management. This course focuses on modern surface and underground mining production systems, emphasizing the use of data-driven decision-making, automation technologies, real-time production tracking, and sustainable mining practices. Participants will gain critical insights into how mine production workflows, equipment utilization, ore flow optimization, and production scheduling systems interact to maximize efficiency, safety, and profitability in high-demand mining environments.

With the global mining sector rapidly shifting toward smart mining, Industry 4.0 integration, AI-driven production systems, and predictive maintenance strategies, this training course bridges the gap between traditional mining operations and next-generation production technologies. It prepares professionals to manage end-to-end mine production systems, improve operational KPIs, reduce downtime, and enhance resource recovery through optimized production models. The program blends theoretical knowledge with practical, real-world case studies from leading mining operations, ensuring participants are fully prepared to implement world-class mine production system strategies in dynamic and competitive environments.

## Programme Curriculum

**Mine Production Systems Training Course**

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**Course Duration**

5 days

**Course Objectives**

1. Master mine production system fundamentals and workflows
2. Optimize production planning and scheduling in mining operations
3. Apply real-time mine monitoring and control systems
4. Improve ore extraction efficiency and throughput performance
5. Implement digital mining technologies and automation systems
6. Enhance equipment utilization and fleet management strategies
7. Develop data-driven production decision-making capabilities
8. Integrate mine-to-mill production optimization techniques
9. Reduce operational bottlenecks and production downtime
10. Strengthen resource allocation and mine productivity modeling
11. Apply predictive maintenance in mining equipment systems
12. Ensure safe, sustainable, and compliant production operations
13. Build expertise in smart mining and Industry 4.0 production systems

**Target Audience**

1. Mining Engineers
2. Mine Supervisors and Shift Managers
3. Production and Operations Managers
4. Mineral Resource and Planning Analysts
5. Metallurgical and Process Engineers
6. Heavy Equipment and Fleet Managers
7. Mining Technology and Automation Specialists
8. Graduate Engineers entering Mining Operations

**Course Modules**

**Module 1: Fundamentals of Mine Production Systems**

- Overview of mining production lifecycle
- Surface vs underground production systems
- Key performance indicators (KPIs) in mining
- Production chain integration principles
- Safety and productivity balance frameworks

- **Case Study:** Optimization of production flow in a large open-pit copper mine

**Module 2: Mine Planning and Production Scheduling**

- Short-term and long-term mine planning
- Production sequencing techniques
- Scheduling software and tools
- Constraint-based optimization methods
- Scenario planning in mining operations
- **Case Study:** Weekly production scheduling improvement in a gold mining operation

**Module 3: Ore Flow and Material Handling Systems**

- Ore fragmentation and haulage systems
- Stockpile management strategies
- Conveyor and truck-shovel systems
- Material blending optimization
- Bottleneck identification techniques
- **Case Study:** Ore flow redesign in an iron ore mining facility

**Module 4: Mining Equipment Optimization and Fleet Management**

- Equipment lifecycle and utilization analysis
- Dispatch systems and haul cycle optimization
- Fuel efficiency and productivity balancing
- Downtime reduction strategies
- Maintenance coordination systems
- **Case Study:** Fleet optimization in a platinum mining operation

**Module 5: Digital Mining and Automation Systems**

- Introduction to smart mining technologies
- Autonomous haulage systems
- IoT-based mine monitoring
- AI in production optimization
- Remote operation centers
- **Case Study:** Deployment of autonomous trucks in an Australian mine site

**Module 6: Data Analytics and Production Intelligence**

- Mining data collection systems
- Real-time production dashboards
- Predictive analytics for output forecasting
- KPI visualization tools
- Decision support systems
- **Case Study:** Data-driven productivity improvement in a coal mine

**Module 7: Mine-to-Mill Optimization Systems**

- Blasting impact on downstream processing
- Fragmentation analysis techniques
- Crushing and grinding optimization

- Integrated value chain analysis
- Energy efficiency in comminution
- **Case Study:** Mine-to-mill optimization in a copper concentrator

**Module 8: Sustainable and Safe Production Systems**

- Environmental impact reduction strategies
- Energy-efficient mining practices
- Waste and tailings management systems
- Compliance with mining regulations
- Safety-driven production planning
- **Case Study:** Sustainable production transformation in a diamond mine

## 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:

**Register Online Now**

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com