Mine Rehabilitation & Reclamation 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

Mine rehabilitation and reclamation have become critical pillars of modern sustainable mining, driven by increasing global pressure for ESG compliance, biodiversity restoration, climate resilience, and post-mining land use optimization. As mining operations expand, the demand for skilled professionals who can design and implement scientifically sound mine closure plans, ecological restoration strategies, and environmental impact mitigation frameworks continues to rise. This training course equips participants with advanced knowledge of landform design, soil reconstruction, water quality management, and ecosystem recovery techniques aligned with international best practices.

Mine Rehabilitation & Reclamation Training Course provides a comprehensive understanding of sustainable mine closure, geotechnical stability, acid mine drainage control, vegetation re-establishment, and long-term environmental monitoring systems. It bridges theory and practical application through real-world case studies and field-based scenarios, enabling learners to develop actionable rehabilitation plans that meet regulatory requirements and global sustainability benchmarks such as IFC Performance Standards, ICMM guidelines, and ISO 14001 environmental management systems.

Programme Curriculum

Mine Rehabilitation & Reclamation Training Course

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Course Duration

5 days

Course Objectives

1. Understand principles of sustainable mine closure planning
2. Apply ESG-driven environmental rehabilitation frameworks
3. Design post-mining landform stability systems
4. Implement acid mine drainage (AMD) mitigation strategies
5. Develop biodiversity restoration and habitat reconstruction plans
6. Conduct soil remediation and topsoil management techniques
7. Evaluate hydrological restoration and water quality control systems
8. Apply geotechnical risk assessment in mine closure
9. Use remote sensing and GIS for rehabilitation monitoring
10. Integrate climate-smart reclamation practices
11. Prepare compliance reports aligned with ISO 14001 standards
12. Design community-centered post-mining land use strategies
13. Develop long-term environmental monitoring and sustainability indicators

Target Audience

1. Mining engineers and geotechnical engineers
2. Environmental scientists and ecologists
3. Mine closure and rehabilitation planners
4. Government mining regulators and inspectors
5. ESG and sustainability professionals
6. Environmental consultants and auditors
7. Civil and earthworks contractors in mining projects
8. Graduate students in mining, geology, and environmental sciences

Course Modules

Module 1: Fundamentals of Mine Rehabilitation & Closure Planning

- Principles of mine lifecycle management
- Regulatory frameworks and global compliance standards
- Introduction to post-mining land transformation
- Environmental and social impact integration
- Risk-based closure planning approaches
- **Case Studies:** South African gold mine closure transformation

Module 2: Geotechnical Stability & Landform Design

- Dump slope stability and erosion control
- Engineered landform creation
- Subsidence risk management
- Rock mechanics in rehabilitation
- Tailings dam stabilization
- **Case Studies:** Brumadinho tailings dam lessons (Brazil)

Module 3: Soil Reconstruction & Contamination Management

- Topsoil stripping and storage techniques
- Soil fertility restoration methods
- Heavy metal contamination treatment
- Soil amendment technologies
- Microbial soil recovery systems
- **Case Studies:** Copper mine soil remediation (Chile)

Module 4: Water Management & Acid Mine Drainage (AMD)

- Acid mine drainage formation processes
- Passive and active treatment systems
- Wetland-based water purification
- Groundwater recharge strategies
- Water quality monitoring systems
- **Case Studies:** AMD treatment in Witwatersrand Basin (South Africa)

Module 5: Ecosystem Restoration & Biodiversity Recovery

- Native vegetation re-establishment
- Habitat reconstruction techniques
- Wildlife corridor restoration
- Invasive species management
- Ecological succession planning
- **Case Studies:** Amazon mining restoration project

Module 6: Climate-Smart Mine Reclamation

- Carbon sequestration in reclaimed land
- Climate adaptation strategies
- Renewable energy integration on reclaimed sites
- Dust and emission control measures
- Climate risk assessments
- **Case Studies:** Solar farm on reclaimed mine land (India)

Module 7: Monitoring, GIS & Remote Sensing Applications

- Drone mapping and LiDAR surveys
- Satellite-based vegetation monitoring
- GIS spatial analysis for rehabilitation
- Environmental data modeling
- Predictive land stability analytics
- **Case Studies:** Remote sensing in Mongolian mining sites

Module 8: Social, Economic & Post-Mining Land Use

- Community engagement strategies
- Post-mining economic redevelopment
- Land repurposing (agriculture, tourism, housing)
- Stakeholder management frameworks
- Sustainable development planning
- **Case Studies:** Ruhr Valley redevelopment (Germany)

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
07 Sep 2026	11 Sep 2026	Online	$1,000
07 Sep 2026	11 Sep 2026	Physical	$1,500
14 Sep 2026	18 Sep 2026	Online	$1,000
14 Sep 2026	18 Sep 2026	Physical	$1,500
21 Sep 2026	25 Sep 2026	Online	$1,000
21 Sep 2026	25 Sep 2026	Physical	$1,500
28 Sep 2026	02 Oct 2026	Online	$1,000
28 Sep 2026	02 Oct 2026	Physical	$1,500

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

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