

Course Type	Course Code	Name of Course	L	T	P	Credit
DE	OMED614	Mine Closure and Sustainability Planning	3	0	0	3

Course Objective
1. Introduce mandatory mine closure planning requirements under national and international policies. 2. Explain streamlined reclamation standards for regional sustainable development and site restoration. 3. Integrate mine closure planning into FR, DPR, and ongoing mining operations. 4. Minimize long-term impacts on landscape, ecology, and local communities. 5. Address post-closure societal impacts, environmental protection, and facility reuse. 6. Develop continuously reviewed closure plans acceptable to communities and regulators. 7. Align closure activities with production, environmental management, and maintenance.
Learning Outcomes
1. Students will understand concepts of integrated mine closure planning for operational phases. 2. Students will develop mine closure plans addressing interrelated environmental and social factors. 3. Students will implement cost-effective environmental management systems for closure success. 4. Students will design frameworks for sustainable mining from exploration to post-closure. 5. Students will evaluate socio-economic considerations, asset disposal, and alternate land uses. 6. Students will assess reclamation strategies balancing ecology, economy, and community needs. 7. Students will align closure activities with global laws, health, safety, and regulatory compliance. 8. Students will create transitional plans for post-mining site development and rehabilitation.

Sr. No.	Topics to be Covered	lecture Hours	Video time (Minutes)	Learning Outcome
1.	Mine Closure concepts and concerns	5	163	Mine Closure concepts
2.	Mine Closure concepts and concerns (Cont.)	5	176	Mine Closure concepts
3.	Mine Closure Planning	5	189	Mine Closure Planning
4.	Mine Closure Finance	5	182	Mine Closure Finance
5.	Tools and Techniques for Mine Closure	5	173	Mine Closure Technique
6.	Development of integrated mine Closure	5	190	integrated mine Closure
7.	Asset Management and Mine Closure	5	230	Asset Management
8.	Sustainable Development and Mine Closure	5	187	Sustainable Development
9.	Practices for Sustainability Assurance	5	198	Sustainable Practices
10.	Cleaner Production Approaches	5	193	Cleaner Production Approaches
11.	Sustainable Post mining Environmental Care	5	162	Post Mining Environmental Care
12.	Technology Deployment for Mine Closure	5	190	OSHAS 18001 and OSHMS
	Total	60	2233	

Text Books:

1. Mine Closure, N.C. Saxena, Publisher details.
2. Mine Closure, Dr. A. Robertson & S. Shaw, Publisher details.
3. MMRD Act 2015 and Amendments, Ministry of Mines.

4. Mineral Concession Rules, Ministry of Mines.

Reference Books:

1. Guidelines of MOEF&CC - Annual Reports, Ministry of Environment, Forest & Climate Change, Ministry of Mines, Ministry of Coal.
2. Sustainable Mining Practices - A Global Perspective, Vasudevan Rajaram, Subijoy Dutta, Krishna Parameswaran, ISBN-90-5809-689-0, Taylor & Francis.