ROCK ENGINEERING FOR UNDERGROUND COAL MINES

Code	Credit Hours
MinE-816	3-0

Course Description.

Physical properties of coal, Advanced coal analyses with quality assessments, Characteristics of coal deposits, Exploration, Choices of coal mining methods, Strata controls in coal mining, Roof and Sidewall Stability, Pillar Design and Pillar Extraction, Multiple Seam Mining, Shallow Workings, Coal mining explosives and blasting, Numerical Modeling, Subsidence in coal mines and monitoring

References / Textbooks

1. J. Nielen, Bernard J. M (2010), Rock Engineering of Underground Coal Mining 2nd Edition
2. R.D Singh (2004), "Principles and practices of modern coal mining", ISBN:8122409741.
3. Osborne, D., October 2013, The Coal Handbook: Towards cleaner production, ISBN: 978-0-85709-422-3 <https://www.elsevier.com/books/the-coal-handbook-towards-cleaner-production/osborne/978-0-85709-422-3>

Pre-Requisites: Nil

ASSESSMENT SYSTEM FOR THEORY

Quizzes	15%
Assignment	5%
Mid Terms	30%
ESE	50%

Teaching Plan

Week No	Topics	Learning Outcomes
1	Introduction to underground Mines	CourseOutline,objectives,teachingplan,assessmentmethod, conceptsreview. Introduction to underground mines and various minerals extracted via underground mine
2	Physical Properties of Coal	Physical properties of coal, Advanced coal analyses with quality assessments, Characteristics of coal deposits
3-4	Exploration methods and mining methods	Exploration, Choices of coal mining methods,
5-8	Roof stability	Strata controls in coal mining, Roof and Sidewall Stability
9	**MID TERM EXAM**	

10-11	Pillar Design	Pillar Design and Pillar Extraction, Multiple Seam Mining, Shallow Workings
12-13	Explosive blast design	Coal mining explosives and blasting
14-17	Subsidence modelling	Numerical Modeling, Subsidence in coal mines and monitoring
18	**END SEMESTER EXAM**	