MINING MACHINERY

PROF. KHANINDRA PATHAK
Department of Mining Engineering
IIT Kharagpur

TYPE OF COURSE : New | Core | UG
COURSE DURATION : 12 Weeks (18 Jan’ 21 - 09 Apr’ 21)
EXAM DATE : 25 Apr 2021

INTENDED AUDIENCE : Undergraduate students of Mining Engineering
INDUSTRIES APPLICABLE TO : CIL, HCL, NALCO, SAIL, NTPC, NLCIL, HZL, Essel Mining, JSW, BEML, HEC, L&T

COURSE OUTLINE :
Mining Machinery is a core course for undergraduate program in Mining Engineering. This course deals with the basic construction, operation and maintenance aspects of machines used in mining and quarrying industry so that a graduate mining engineer can select the right equipment for specific job under defined geo-mining conditions and provide feed-back for design, application and upkeep of the machines.

ABOUT INSTRUCTOR :
Prof. Khanindra Pathak did B. Tech in Mining Machinery and M.Tech in Surface Mining from IITISM, Dhanbad, PhD in Mining Engineering from Imperial College of Science Technology Medicine, London (Commonwealth Fellowship). He is a Professor of Department of Mining Engineering, Ex-Director of Coal India Limited, Ex-HoD of Mining Engineering Department of IIT Kharagpur and University of Technology, Lae, Papua New Guniea. Chairman, Eastern Regional Committee of AICTE, Kolkata, Chairman, Board Governors TEQIP-III Dibrugarh University Institute of Engineering and Technology, Dibrugarh.

COURSE PLAN :

Week 1: Introduction to Mining Machinery; Fundamentals of Machinery
Week 2: Fundamentals of Machinery (Cont’d)
Week 3: Wire Ropes; Site and Rock Preparation Equipment
Week 4: Site and Rock Preparation Equipment (Cont'd); Surface Mining Machinery
Week 5: Surface Mining Machinery (Cont'd)
Week 6: Surface Mining Machinery (Cont’d); Underground Mining Machinery
Week 7: Underground Mining Machinery (Cont'd)
Week 8: Underground Mining Machinery (Cont’d); Turbo Machinery
Week 9: Transportation Machinery for Surface Mines
Week 10: Transportation Machinery for Surface Mines (Cont’d); Transportation Machinery for Underground Mines
Week 11: Transportation Machinery for Underground Mines (Cont’d)
Week 12: Transportation Machinery for Underground Mines (Cont’d); Types of Maintenance and Maintenance Measurements