



Set up in 1956, Mining Engineering Department at IIT Kharagpur offers B.Tech (Hons.), M.Tech, MS and PhD academic programs. It is actively involved in research in the areas of Rock Mechanics and Ground Control, Numerical Analysis, Modeling Studies in Ventilation, Underground and Surface Mine Environment, Mine Fire and Explosions, Geomatics and Remote Sensing, Mine Safety, Reliability, Mineral Processing and computer applications.

The department has strong industry interaction with all major mining affiliated industries in India and abroad. The sponsored research projects and consultancies in the department cover all aspects of mining activities.

To further, strengthen the academic and industrial relations, department offers tailor made off-campus short term courses on topics of interest to the industry.



Program Schedule and Venue

02-06 Sep 2019
(9:30 AM – 6 PM)

Dept. of Mining Engineering,
IIT Kharagpur

How to Reach

IIT Kharagpur is well connected by railway's by Kharagpur/Hijli Station from all parts of the country. The nearest airport is Netaji Subhas Chandra Bose International Airport about 150 km from Kharagpur.

Last Day of Registration

25

August 2019

How to Apply

use the link: <https://erp.iitkgp.ac.in/CEP/courses.htm> to apply online



The short listed candidate for this program can complete the payment procedure (if require)

Program Fee

Nil for TEQIP-III sponsored participants

TEQIP-III Participants have to confirm their participation by sending an application fee of ₹1000/- by demand Draft in favour of "CEP-STC IIT Kharagpur" on or before 20-08-2019 to Dr. Verma. Fee will be refundable after attending the course otherwise non-refundable.

For others - ₹30,000/- + GST @18% per participant

Who can Attend

Faculty members and research scholars planning to specialize in this tropical area, and others who wish to refresh their background to develop research in these areas.

Accommodation

Accommodation will be provided to the TEQIP-III sponsored participants at institute guest house. For others, accommodation will be provided on payment basis.



NPIU

TEQIP - III

NPIU – A unit of MHRD, Govt of India for Implementation of World Bank Assisted Projects in Technical Education
Indian Institute of Technology Kharagpur

GROUND CONTROL FOR PLANNING, PRODUCTION AND SAFETY

5 Days

02 - 06 September 2019



About The Course

The principal objective of the course is to train the participants with the fundamentals and applications of rock mechanics principles. Rock Mechanics covers the engineering behaviour of rock and rock masses in both mining, civil and petroleum engineering applications. The practice of rock mechanics are continuously evolving and making significant progress for improving productivity and safety. Several civil /mining/petroleum companies have successfully implemented rock mechanics principles to solve short and long term geotechnical issues at their sites. As a result, the importance of rock mechanics and ground control of surface and underground excavations are felt more now than ever before.

This course is specifically designed to expose rock mechanics practitioners to the newer and state-of-the-art know-how. The course is aimed to equip participants with the latest rock mechanics technologies and impart knowledge of relevant case studies and typical rock mechanics applications.

Emphasis will be placed on practical hands-on tutorials on principles of rock mechanics as well as laboratory investigation to find the physical and mechanical properties of rock. This course starts from the basics with the recent developments and focuses on their applications to solve real life problems.



COURSE CONTENT

The course will cover the following broad areas:

(a) Principles of Rock Mechanics

1. Physical and mechanical properties of rock
2. Insitu stresses and Measurements
3. Rock mass classification
4. Stress, strain and stress-strain relationships
5. Rock mass behaviour and failure criteria
6. Stress distribution around underground and surface excavations

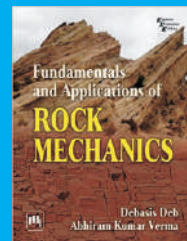
(b) Applied Rock Mechanics

1. Support design for underground and surface opening e.g. stope design, bord and pillar design, longwall panel design, etc
2. Stability of deep excavations
3. Slope stability of soils, rocks and dumps
4. Subsidence: Prediction and control
5. Rock Blasting

(c) Rock Instrumentation

(d) Numerical modelling of rock engineering problems

(e) Hands-on-experience on Laboratory testing of rock



Course Material

Deb D, Verma AK (2016)
Fundamentals and Applications of Rock Mechanics, PHI Publications, New Delhi.

COURSE COORDINATOR AND INSTRUCTORS

Contact the course coordinator for any questions.

Prof. Abhiram Kumar Verma

Course Coordinator and Instructor



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Interests: Excavation design, rock mechanics and ground control, numerical modeling.

Prof. Debasis Deb

Course Co-Coordinator and Instructor



Professor and Head
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Interests: Rock mechanics and ground control, numerical methods

Prof. Rakesh Kumar

Course Co-Coordinator and Instructor



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Interests: Rock mechanics and ground control



Visit the Institute Website for more Information
www.iitkgp.ac.in