

## **MINING ENGINEERING DEPARTMENT**

The Department of Mining Engineering at IIT Kharagpur started in 1956 with the first batch of B.Tech students. It has played a pioneering role in the introduction of modern mining engineering curriculum in India. The faculty members are reputed for writing text books, publishing international journal papers, and actively involving themselves in industrial consultancy and short term courses.

### **CLIMATE AND ACCESSIBILITY**

By the second week of January the delegates can expect very enjoyable weather conditions. Kharagpur is well connected by rail from all parts of the country. From most big towns and cities the participants can reach Kharagpur by direct trains.

### **SPONSORED PARTICIPANTS**

The course fee is Rs.18,000/- per participant which will include course material. The accommodation of the participants will be arranged at the Main Guest House of the institute at their own expense (non-residential course).

### **MODE OF PAYMENT**

Option 1: Demand Draft  
Demand Draft in favour of “CEP-STC, IIT Kharagpur”, payable at any bank in Kharagpur should be sent by post to the Course Coordinator

Option 2: Electronic Transfer  
Name of Bank: Syndicate Bank,  
SRIC, IIT Kharagpur 721302;  
Name of Account:  
CEP-STC, IIT KHARAGPUR  
Account No. 95562200002955  
RTGS No. SYNB0009566

## **RISK ASSESSMENT AND ACCIDENT PREVENTION IN MINES**

### **CONTACT ADDRESS**

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Coordinator  
Professor Ashis Bhattacharjee

Organized by

Department of Mining Engineering  
Indian Institute of Technology  
Kharagpur

## INTRODUCTION

Mining has been and continues to be an industry where the concern for miners' safety is of great importance. Even though the mining industry has experienced a considerable improvement in the reduction of accident rates in underground and surface mines, further reduction of accident rates is necessary. In general safety problems in the Indian mining industry in terms of the reduction of accidents and injuries are usually addressed through reactive measures of hazard control rather than proactive measures. It is now widely accepted across the globe that risk assessment and risk management greatly contribute towards improvement of safety of mining operations and mine workers. Moreover, the role of human factors at workplaces is a significant factor in determining the level of safety in any given situation. Therefore, human factors aspect should also be given due consideration in accident prevention.

During the recent time, safety aspects have been focused in other countries in emerging areas such as safety engineering, risk assessment and safety management system, loss control, human factors, human behaviour and virtual reality. This course is specifically tailored to address these thrust areas of mine safety which can be used as valuable techniques by the safety management to deal with risk assessment and management of mines and to address the specific mine safety problems in underground and opencast mines including the issues of near-miss / near-hit incidences. The course is primarily designed for all personnel involved in safety.

## SCOPE OF THE COURSE

The following topics will be covered in the programme:

- (i) Concept of safety engineering and its role in mine safety
- (ii) Methods and techniques of risk assessment in mines
- (iii) Risk assessment and safety management system of DGMS
- (iv) Analysis of human factors related accidents and behavioural based safety
- (v) Safety systems analysis using fault tree approach for identification of potential mine safety problems
- (vi) Computer based statistical analysis of injury data for risk assessment and safety evaluation
- (vii) Safety in opencast mines
- (viii) Emerging technologies in mine safety including wireless tracking of mine workers, virtual reality, and injury epidemiology
- (ix) Whole-body vibration of mine workers
- (x) Demonstration and use of BG-4, Quaestor-III, and Spirometer
- (xi) Case studies.

## COURSE STRUCTURE

The lecture classes will be taken mainly by the faculty members of Mining Engineering and allied Departments of the Institute. Some of the lecture sessions will be taken by experts from outside organizations.

## Short Term Course on

## RISK ASSESSMENT AND ACCIDENT PREVENTION IN MINES

January 13-16, 2015

### PROFORMA FOR APPLICATION / REGISTRATION

Name

Designation

Address

Academic Institution / Sponsoring industry

REGISTRATION FEE:

Rs. 18,000/- (per person) in favour of "CEP-STC, IIT Kharagpur"

Demand Draft Number/Electronic Transfer Reference No:

Date :

Complete contact address (including Fax No. and E-mail address if any)