We are going through a critical period due to COVID-19 in all aspects of our business and social life. The unprecedented pandemic has adversely affected every sphere of life including the Mining industry. It has disrupted the usual industrial operations and there is no certainty when things will become normal. Even in these tough and challenging times of lockdown and social distancing, mining operations should continue to support the economy and life in general. Our concern for safety of miners has become more important and relevant in the current scenario. The technology management in the mining operations are going to be more data driven and remotely monitored in the near future. For this purpose, the executives will have to manage the ground operations relying on digitally acquired and transmitted information. There will be need of additional skills to retrofit new instruments and data acquisition systems in the existing machines.

Success of future surface mines will depend on careful handling of large size machinery, GPS technology remote diagnostics, automation and robotics along with reliable down time minimizing techniques etc. Wide range application of data acquisition system, digital ore body modeling integrated with mining machinery controls, computerized mine planning, reliable on line machine diagnostics and advanced communication systems will make the industry more competitive. Implementation of automation, cleaner mining systems and advances of machinery management etc. will be needed for the promising growth.

The participants of this programme will be asked to record their objectives. Following the course, delegates should consider whether they have met their objectives and to consider any further development opportunities arising. This is proven to aid the learning process and reflects our policy – to plan, undertake and reflect upon professional development activity. Through the deliveries in the course we try to expose standards, theory and methodologies, specific knowledge areas, interpersonal skills and latest tools and techniques with special attention to their applicability in specific mining environment.

The purpose of this five-day online course is to enable the participants to enhance their understanding of surface mining operations in the light of the recent trends of developments to apply in their work place. This includes an assessment of the techniques of the safety and productivity enhancement in mines with special attention to the post mining liabilities. Spoil dump management and Catchment Area Treatment issues are highlighted in this course.

The participants in this course will be made permanent user of a MOODLE and the course materials and lectures will be available there (http://www.miningpedagogy.iitkgp.ac.in/moodle/login/index.php), a site dedicated to teaching and learning. The effectiveness of this online course will be evaluated through online quizzes.

The following broad areas will be covered in the course

- Introduction to Industry 4.0 and Technology Management in Surface Mining.
- Instrumentation in HEMM for Safety and Productivity Enhancement.
- Introduction to Data Science and Data Analytics for Mine Management.
- The recent developments in Surface Mining Technologies.
- Safety and Productivity Enhancement and Audit in Open Cast Mines.
- Spoil Dump Management and Catchment Area Treatment.
- Introduction of Vetiver system.
- Introduction to Asset Management.
The online course will be conducted during August 27-31, 2020 from 10:00AM to 5:30PM with lunch and tea breaks. Soft copy of the **Course Materials** and **Certificate of Participation** will be emailed to the registered/nominated participants. The online lectures will be delivered by faculty members of Indian Institute of Technology Kharagpur and by experts with experience from India and abroad. Each session will be followed by interactive Q &A session.

**Fee and How to Apply**

The fee of this online programme is Rs. 15,000.00 per participant. GST @18% will have to be paid as per GoI rules.

Use the link: (https://erp.iitkgp.ac.in/CEP/courses.htm) to apply ONLINE

Payment is to be done ONLINE after getting short listed for the program.

(**The detailed procedure for applying through IIT Kharagpur online course registration portal is enclosed along with this brochure**)  

[**The fees should be paid by following the steps as mentioned above** by electronic money transfer to “CEP STC IIT Kharagpur” to the account number 95562200002955 of Syndicate Bank at Branch SRIC IIT Kharagpur (IFSC Code SYNB0009556)].

Alternatively, please email the list of the participants, their designations, valid email address and mobile numbers as early as possible (preferably on or before 25.08.2020)

The link for participation and password will be sent to registered/nominated participants.

For any other information, or sending nomination please contact:

**Prof. Khanindra Pathak**  
Developer and Principal Instructor  
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**Mr. Sourav Kr. Mandal**  
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**Department of Mining Engineering, IIT Kharagpur**

Set up in the year of 1956, this Department has steadily grown as one of the best mining education centre in the country. Besides offering undergraduate, postgraduate, and doctoral courses in Mining Engineering, it is actively involved in short term courses and research activities in the areas of Mining Machinery, Mine Safety and Reliability, Mine Fire and Explosions, Model Studies in Ventilation, Rock Mechanics and Ground Controls, Numerical Analysis of Mine Structures, Underground and Surface Environment, Geometrics and Remote Sensing, Mine Closure Planning and relevant computer applications. Short-term courses, consultancy, sponsored research programmes and postgraduate project works are part of the department's regular activities.
Continuing Education Programme (CEP)
Indian Institute of Technology Kharagpur

Procedure for applying through IIT Kharagpur online course registration portal

Use the link: https://erp.iitkgp.ac.in/CEP/courses.htm

Steps to be followed:

1. Sign-Up
2. Verify your email-id (link will be sent to your e-mail)
3. Login
4. Edit Profile (Fill up all the mandatory fields, upload photo and signature)
5. Click on 'APPLY NOW' button.
6. Upload your .pdf format id-card (if necessary).
7. Payment Gateway activated

***An e-mail will be communicated from Principal Coordinator/Convenor/Organiser, IIT Kharagpur to the shortlisted applicants stating the payment procedure.

***This is a one time sign up process for applying through IIT Kharagpur online course registration portal. You can apply for any other programme using the same Login-id and Password.

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For any help please call @ the following help-line numbers:(0)-3222-269626

or Email us: cep_erp@iitkgp.ac.in