

About Indian Institute of Technology (ISM) Dhanbad

The Indian Institute of Technology (Indian School of Mines), Dhanbad formerly known as Indian School of Mines, Dhanbad was established on 9th December 1926, by Lord Irwin, the then Viceroy of India to address the need for trained manpower related to mining activities in the country with disciplines of Mining and Applied Geology. In 1967 it was granted the status of a deemed university under Section 3 of UGC Act, 1956. Finally, on September 2016, the Institute has earned the status of IIT and named as IIT(ISM) Dhanbad.

About Department of Mechanical Engineering

The Department of Engineering is an indispensable constituent since the inception of the Institute in 1926. In recognition of the expanding activities of the Department, it was renamed as “Department of Engineering & Mining Machinery” in the year 1973. In the year 1999, the Department started B. Tech. course in Mechanical Engineering. Consequently, the name of the Department was changed to “Department of Mechanical Engineering & Mining Machinery Engineering” in the year 2002. In few years, the B. Tech. in Mechanical Engineering course acclaimed much popularity and increased its intake size to such an extent that the Institute decided to declare the “Department of Mechanical Engineering” to work independently from 26th June, 2013. Presently, Department offers four year B. Tech., two year M. Tech in four specializations (Design, Thermal, Manufacturing, Maintenance and Tribology) for regular students, three year M. Tech. for working professionals, full time and part time PhD programs. Faculty members of the Department are involved in various consultancy and R&D projects sponsored by reputed organizations, such as, SERB, CSIR, ARDB, DRDO, etc.

About The Course

The course will cover the basics of condition monitoring techniques in mechanical systems. Systems modelling signal processing, and related software/hardware will be explained. After completing the course, the participants will understand the main principles of computer based condition monitoring. *The course is useful for condition monitoring persons working both in industry and in academia.*

The Course Coverage

Condition monitoring provides early signs of deterioration or malfunction in machinery. The course will cover vibration based monitoring of machinery. The basics of material mechanisms to recognize the stress field in presence of any defect of any form will be explained through mechanisms of fracture. Further, understanding of machine dynamics will be covered to make the participants familiarize with the vibration and acoustics terms. System modelling and fault simulation will be explained using Simulink. Signal processing of the acquired signal is required to extract the relevant information about the machine conditions. Basics of digital signal processing will be covered to familiarize with the common signal processing tools used in machinery condition monitoring. Hand on practice of *signal processing techniques* and *system modelling* will be provided in Matlab, Simulink, and LabVIEW environments. Finally, data acquisition, signal processing and fault identification will be demonstrated in laboratory conditions to familiarize the participants with the related software and hardware used in machinery condition monitoring.

Date and Venue

Course duration: March 21–24, 2018, Classes will be held at EDC, IIT(ISM). Laboratory Experiment: Vibration Lab & CAD Lab, Department of Mechanical Engg. IIT(ISM), Dhanbad, Jharkhand-826004, India.

Course Fees

Rs.18,000/- (Participants from Industry)
Rs.12,000/- (Participants from Academic Institutions)

Course fee for IIT(ISM) participants will be considered as per IIT(ISM) rule.

The course fees are inclusive of course material, food [tea, lunch and dinner] and lodging (twin-sharing).

Accommodation

Accommodation may be offered in the EDC, IIT(ISM) Dhanbad as per availability.

Last Date

The admissions are strictly on first-come-first-served basis and would close latest by February 28, 2018.

How to Reach IIT(ISM) Dhanbad

IIT(ISM) is situated at Dhanbad. The city Dhanbad (in Jharkhand) is situated 167 km east from Ranchi (capital of Jharkhand), 270 km (west) from Kolkata and 1100 km east from New Delhi. Dhanbad is well connected through rail from Delhi, Howrah, Tatanagar, Ranchi, Jabalpur, Patna, Mumbai, Ahmedabad, Jodhpur, Indore, Dehradun etc. IIT(ISM) is just 3 km away from Dhanbad Railway Station and by the side of National Highway 32. The nearer commercial airports are at Kolkata and Ranchi, it takes around 4 to 5 hours to reach Dhanbad.



Registration

The participants may download the registration form available under the 'Short Courses' tab in the Institute website (www.iitism.ac.in). The registration fee may be paid via (1) Demand Draft/ Cheque or (2) Online Transfer.

(1) *Payment via demand draft/ Cheque:* The registration form filled in all respects along with a DD/ Cheque in favour of 'Registrar, Indian Institute of Technology (Indian School of Mines), Dhanbad' payable at Dhanbad, should reach the Course Coordinator latest by 28th February, 2018.

(2) *Payment via electronic transfer*

The filled in registration form along with the hard copy of the transaction slip should reach the Course Coordinator latest by 28th February, 2018.

Name of Bank: Canara Bank

Branch Name: Saraidhela, Dhanbad

A/C No.: 0986101009746 (Savings)

Account Holder Name: Registrar, IIT(ISM),Dhanbad

IFSC Code: CNRB0000986

MICR Code: 826015003

Communication is to be done to the course coordinators in following e-mail:

sachinks@iitism.ac.in, shibayan@iitism.ac.in

Course Coordinators:

Dr. Sachin Kumar Singh

Department of Mechanical Engineering,

IIT(ISM) Dhanbad - 826004

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Mobile: +91 9102991041

Dr. Shibayan Sarkar

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Short Course on CONDITION MONITORING AND FAILURE ANALYSIS OF MACHINES

at
IIT(ISM) Dhanbad

21 – 24 March 2018

Registration Form

Name (in block letters) _____

Gender (Male/Female): _____

Designation: _____

Organisation: _____

Mailing Address: _____

Telephone: _____

Email: _____

Details of DD/cheque: _____

Or Transaction ID: _____

Signature of applicant: _____

Short Course on CONDITION MONITORING AND FAILURE ANALYSIS OF MACHINES

March 21 – 24, 2018



Organized by



**Department of Mechanical Engineering
Indian Institute of Technology (ISM),
Dhanbad 826004, Jharkhand, India**