

Short term course on Finite Element Method for Engineers and Researchers from 24th to 28th June 2019

A short term course on **Finite Element Method for Engineers and Researchers (FEMER-2019)** was successfully organized by School of Engineering, IIT Mandi during 24th to 28th June 2019 at Kamand Campus. This course was partially funded by CSIR and SERB (Govt. of India).

Finite Element Method (FEM) is a numerical and computer-based technique for solving a variety of practical engineering problems that arise in different fields' namely structural analysis, fluid flow, heat transfer, vibrations, electrical and magnetic fields, etc. The finite element method provides infinite possibilities for engineering, and this course provides a detailed introduction of FEM and its applications in engineering and beyond. The Objective of this course was to introduce finite element method to scientists, academician and engineers so that they are equipped to solve various problems of engineering, sciences and industries. This course consists of over 28 hours session, which introduce basic equations of practical engineering problems, mathematical principles of FEM, implementation of FEM for variety of problems, formulation and implementation of non-linear FEM, case studies and limitations of FEM, motivation for eXtended finite element method (XFEM), formulation and implementation of XFEM. The participants were able to implement FEM/XFEM in various engineering applications with FEM software. Examples were demonstrated with MATLAB and ANSYS packages.

Over 55 participants attended the course, the participants were from research labs, government agencies, industries, engineering colleges and technical institutes from Tamil Nadu, Karnataka, Madhya Pradesh, West Bengal, Bihar, Jharkhand, Uttar Pradesh, Punjab, Haryana, Himachal Pradesh, Jammu & Kashmir, Delhi and Chandigarh. Speakers included subject experts from IIT Roorkee and IIT Mandi. Dr. Indra Vir Singh from IIT Roorkee was invited as external subject expert for the course.

Dr. Himanshu Pathak and Dr. Rajeev Kumar from School of Engineering, IIT Mandi were the coordinators of this short term course (FEMER-2019).



Picture 1: Group photograph of the participants and organizers at IIT Mandi, Kamand Campus.



Picture 2: Participants are attending lectures.



Picture 3: Participants are attending lab Sessions.