



# A Hands-on Workshop on Composites Design and Manufacturing

(16 June 2025 to 20 June 2025)



## Overview

Composites have large scale commercial applications in marine applications, aerospace, automotive, marine, sporting goods, infrastructure, energy storage, biomedical etc. In the recent years, the development of new and improved composites manufacturing processes has led to limitless product development opportunities. The subject of manufacturing will be dealt within the framework of composite materials. The design portion includes an explanation of the concepts involved in the detailed design analysis of composites.

## Topics

- Fundamentals of Composites
- Primary Manufacturing Processes for Composites
- Secondary Manufacturing Processes for Composites
- Mechanics of Composite Materials
- Introduction to Finite Element Method and Mesh-free technique for the design analysis of Composite materials
- ANSYS Parametric Design Language (APDL) Programming for Composite Structures
- Meanfield Homogenisation for Composite Materials (RVE Analysis for calculation of effective composite properties)
- Structure Health Monitoring of Composites
- Hands-on sessions on fabrication of composites.
- Hands-on experience for mechanical testing of composites and related ASTM standards.
- Hands-on experience for CAE based designing of composites using ANSYS and DIGIMAT software.
- Hands-on experience with composite condition monitoring.

## Eligibility

- Engineers, researchers and scientists in academic institutions and research laboratories pursuing research in the field of materials and composites.
- Student at all levels (ITI/Diploma/B.E./B.Tech./M.Sc./M.Tech./M.S./Ph.D.) or Faculty from Engineering Institutes / Colleges / Polytechnics.
- Practicing Engineers from Industries and R&D Institutions.

## About IIT Mandi

Indian Institute of Technology Mandi or IIT Mandi is located at an average altitude of 3000 feet above sea level in the scenic forested Himalayan mountains along the banks of the river Uhl, a tributary of River Beas. IIT Mandi is an autonomous premier engineering and technology institute located in Kamand valley, Mandi, Himachal Pradesh. The institute was established in 2009 by the Ministry of Human Resource Development, Government of India. The focus of IIT Mandi is to spearhead cutting edge research and development of technologies needed by the world in the years to come. For more information please visit: <https://www.iitmandi.ac.in/>

## How to Apply

### Registration fee

Interested participants can register by paying a fee as per following details:

- **Student Participant** ₹ 12,000/-
- **Faculty or Post Doctoral Participant** ₹ 15,000/-
- **Participants from Industry/Research Lab** ₹ 20,000/-
- **Accompanying Person** ₹ 8,000/-
- **Participants from Abroad** ₹ 25,000/- or \$300/-

Registration Fees includes hostel accommodation, food (breakfast, lunch, snacks, tea refreshment and dinner) during workshop days, workshop gala-dinner, and registration kit.

Registration Fee can be paid in below mentioned account

- **Bank** Punjab National Bank, IIT Kamand
- **Account number:** 7315000100034369
- **Account Holder Name:** CCE, IIT Mandi
- **IFSC code:** PUNB0731500
- **Swift code:** PUNBINBBPAR
- **IIT Mandi GSTIN:** 02AAALI0149J1Z1
- **IIT Mandi PAN:** AAALI0149J
- **Registrations close on:** 31 March 2025 (Monday)

Please keep screenshot of transaction and UTR number saved before filling the registration form.

Registration fee can be paid through UPI using following QR code



Registration Fee UPI



Workshop Webpage

## Registration form

After paying the registration fee, please fill the following form:

<https://forms.gle/JagdKRCFbKwqkyeY8>

## Contact Us

**Dr. Sunny Zafar and Dr. Himanshu Pathak**

School of Mechanical & Materials Engineering

Indian Institute of Technology Mandi, Kamand, Mandi-175075, (Himachal Pradesh)

E-mail: [cdpmhm2025@iitmandi.ac.in](mailto:cdpmhm2025@iitmandi.ac.in)

Webpage: <https://research.iitmandi.ac.in/cdpmhm2025/>

