



**Indian Institute of Technology (IIT) Mandi  
offers  
Himachal Pradesh Kaushal Vikas Nigam (HPKVN)  
Sponsored 3 Weeks Course on  
Hands-on Training of Computational Fluid Dynamics  
(01<sup>st</sup>-19<sup>th</sup> November 2022)**

### Introduction to the course

The development of modern computational fluid dynamics (CFD) began with the advent of the digital computer in the early 1950s. Since then it has been used by researchers, industry personals to solve the problems of fundamental interest and industrial relevance in the broad domain of fluid flow and heat transfer. This course will provide an introduction to the theoretical fundamentals as well as to the use of commercial and opensource CFD codes to analyze flow and heat transfer in problems of practical engineering interest. Participants will be trained to preprocess raw geometric data, mesh it and then develop a CFD model. In this process, participants will understand the process of developing a geometrical model of the flow, applying appropriate boundary conditions, specifying solution parameters, and visualizing the results.

### What will be offered?

- Fundamentals of Computational Fluid Dynamics
- Basics of Finite Difference Method and Finite Volume Method
- Solving 1-D/2-D fluid flow and heat transfer problems using TDMA
- Introduction to Ansys-Fluent and OpenFOAM
- Learning setting up a CFD simulation by applying appropriate governing equations and boundary conditions using software packages
- Understanding the post processing and physical interpretation of results

### Who can apply?

The course is open for **residents of Himachal only**.

**Eligibility:** Diploma in engineering, BE/B.Tech (2<sup>nd</sup> Year onwards), ME/M.Tech/MS/Ph.D. students, practicing engineers, teachers/faculties of Mechanical/Aerospace/Automobile/Civil Engineering can apply for the course. The maximum of **80 participants** will be selected for the course as per the norms of HPKVN.

### How to apply?

The interested students/teachers/engineers of Himachal can register using the link given here:

[https://docs.google.com/forms/d/1TXqFy6OijO1EmISvabqE\\_tavSZSJLdOSUzzLJAPZVyQ/edit](https://docs.google.com/forms/d/1TXqFy6OijO1EmISvabqE_tavSZSJLdOSUzzLJAPZVyQ/edit)

The last date of registration is **30<sup>th</sup> September 2022**.

There is **no registration fee, accommodation and food will be provided free of cost** at IIT Mandi Campus.

### About IIT Mandi

Indian Institute of Technology Mandi (IIT Mandi) is a public technical and research university located in Kamand Valley, Mandi city in Mandi district of Himachal Pradesh. It is established in February 2009 and is one of the eight newer Indian Institutes of Technology (IITs) established by the MHRD under The Institutes of Technology (Amendment) Act, 2011 to expand the reach and enhance the quality of technical education in the country. Since the inception of the institute, IIT Mandi has been involved in cutting edge research and development of technologies needed by the world in the years to come. Research groups at IIT Mandi work together to create and harness the newest technologies needed to serve the people of the region and the country, and to tackle problems of global importance.

### Contact us

**Dr. Parmod Kumar and Dr. Gaurav Bhutani**  
School of Mechanical and Materials Engineering  
IIT Mandi, Kamand-175075, Mandi, H.P.

Email: [parmod@iitmandi.ac.in](mailto:parmod@iitmandi.ac.in);

[gaurav@iitmandi.ac.in](mailto:gaurav@iitmandi.ac.in)

Phone: +91-85804-45968

