



Refresher Course

MALAVIYA MISSION TEACHER TRAINING CENTRE

Indian Institute of Information Technology,
Design and Manufacturing, Kancheepuram

Chennai- 600127



Subtractive, Additive and Digital Manufacturing

About MMTTC:

The Malaviya Mission Teacher Training Center (MMTTC) at IIITDM Kancheepuram is funded by the Ministry of Education (MoE) under the Malaviya Mission Teacher Training Programme. The mission aims to transform higher education by integrating Indian values and ethos into teaching, research, publications, patents, and institutional development. Established as one among the 116 centers in the country, the MMTTC at IIITDM Kancheepuram focuses on design and manufacturing education. It develops e-learning materials, low-cost laboratory instruction modules, and innovative projects for students and teachers.

Registration Fees:
NIL

Date:
07th July 2025 to 19th July 2025
Mode: Online

About the programme

This refresher course is intended to introduce various manufacturing processes, mechanisms, and revolutions in Industry 4.0. This program is designed specially for academic faculty members as a part of the core course on manufacturing science, engineering, and technology.

- The program will focus on fundamentals and the science of metalworking, to advanced analysis of metalworking. Process characteristics, analysis, and design criteria of various manufacturing processes, both conventional and non-conventional will be discussed.
- The program will assist in understanding material behaviour during various manufacturing processes and how to select suitable processes based on material properties.
- The program will motivate sustainable manufacturing practices in industries and the consideration of environmental impacts in process selection and design. The fundamental principle of metal and non-metal deformation will be discussed.
- The program will provide exposure to the fundamentals of Industry 4.0: Concepts and development of the smart factory model applicable to digital manufacturing.
- The program will introduce additive manufacturing, a next-generation process to create geometrically complex, lighter, and cost-effective custom-made components.



Topics covered

- Concept of generatrix and directrix
- Orthogonal and oblique cutting
- Tool failure and machining economics
- Mechanism of thermo-electric advanced machining processes
- Super finishing processes
- Machining dynamics and modal analysis
- Process selection, planning and control for additive manufacturing
- Introduction to digital manufacturing and Industry 4.0
- Data analytics, cyber security and AI in digital manufacturing
- Sustainability and life cycle analysis in manufacturing

Registration



1. Register and login as a participant in www.mmc.ugc.ac.in
2. In the dashboard click on “Apply for Guru Dakshtha (FIP), Refresher Course & Short Term Programme”
3. Select Apply for “Refresher Course” and from the dropdown select the Programme Name and Center Name as “Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram, (07/07/2025-19/07/2025)”
4. Choose the title from the dropdown menu and enter the remaining personal information including year of joining, total years of experience etc.
5. Upload the NOC on Institute/College/University letterhead as per the format provided in <https://docs.google.com/document/d/1n10pi5fTCM1NGVUB62-fucX-86DSVSSTdkQhdglvD0oM/edit?tab=t.0#heading=h.gjdgxs> **here**
6. Click on Submit to complete the registration process.



Resource Persons:

The course content will be delivered by resource persons from prestigious academic institutions, research labs and industry.

Eligibility:

- Faculty members working in universities and colleges that are included under Section 2(f) of the UGC Act are eligible to attend RC.
- This programme shall be taken into consideration for fulfillment of the requirements as laid down in Career Advancement Scheme as per UGC Regulations.

Coordinators:

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