Manufacturing Technology Training
An IMTMA initiative

Hands-on Training on “Machine Tool Design - Special Purpose Machine (SPM)”
Date : 25 May to 20 July, 2026
Venue : IMTMA Technology Centre, Bengaluru

INTRODUCTION

Design engineering is one of the key functions in any product manufacturing industry. The solution in physical entity or form for any problem would be a reason for the development of products. Visualizing the product shape, kinematics, motions, selection of critical mechanical elements, optimization for cost, material, reliability, manufacturing, and assembly are the key skills for any machine designer. To become a successful designer, he needs to have a complete knowledge on manufacturing activities includes, including process, production, quality, assembly, and testing. In view of this, IMTMA Design Institute is organizing a comprehensive and hands-on training programme on Machine Tool Design – Special Purpose Machine for young engineers and fresh hires.

FOCUS AREAS

- Training on CAD SOLIDWORKS
- Hands-on training Manufacturing drawings and practice
- Tolerance and GD&T – what why and how
- Engineering basics SOM and EM – Refreshing from designer's point
- Kinematics of Machines – A refreshing from designer's point
- Introduction to CNC machines GPM and SPM
- Cutting tools and selection
- Engineering materials – Insight and selection
- Design of metal cutting Special Purpose Machine - Project
- Overall design concept, Machine specification
- Design of Spindle for milling
- Design of Linear servo slide & Hydraulic Slides
- Selection of Ball screw and LM Guides
- Selection Anti-friction bearings
- Selection of motors
- Hydraulics and pneumatics
- Design evaluation for bearing life, spindle stiffness, critical speed and inertia
- Introduction to Electronics and Electrical for Mechanical
- Design of machine structure
- Overview on coolant system and lubrication system
- Hands-on Experience on FEA Tool
- Industry Visits

KEY TAKE AWAYS

- Confidence in Machine Design
- Confidence in Manufacturing drawings par industry
- Intensive know-how on the design of machine elements
- Design thinking
- Problem-solving skills
- Strong in engineering basics
- Hands-on experience in Machine Tool design – GPM / SPM
- Knowledge in systematic design approach
- Technical competency for the manufacturing industry
- A Certificate of participation based on the performance
- Core Placement across manufacturing industries

PARTICIPATION FEE

Rs. 75000/-	Rs. 50000/-	USD 3000/-
+18% GST	+18% GST	Overseas Participants
IMTMA Members/ Micro Companies/ IMTMA Non Members/ Others	Individuals/ Educational Institutions / Students/ Professors/ Student	

Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company

PARTICIPANT PROFILE

- Final Year Students & Fresh Graduate Engineers & Diploma engineers in Mechanical & Mechatronics.
- Fresh Hires from industry with less than 2-5 year experience

FACULTY

BL Patil, Former Assisatant Director – IMTMA Design Institute

He has over 27 industrial work experience in the field of Fixture design, SPM design (Metal cutting), Process planning for machined components

Dr. Krishna Rao – Industrial expert and Professor

He has served in various positions in HMT Machine Tools Limited in Design Department for 24 years. And he teaching experience of 17 years as Professor, Head and Principal for 8 years in various engineering colleges.

Maqsood A Khallaq - Industrialist

With over 3 decades of expertise in Machine Design and Fixturing. An ex-HMT as Dy. General Manager served the R & D dept. He now runs his own Industry "XL CNC Machine" at Peenya.

Arunakumar – Industry Expert

Is a Postgraduate Mechanical Engineer with a Machine tool specialization. He comes with over 36 years of domain expertise in Machine tool design, Assembly, Inspection, Testing and Motor and pump selection

Dr. Prathima Holla

Dr. Prathima Holla, is a rare blend of Industry and academics. Graduate in Electronics and Communication Engineering from NMAMIT Nitte. Masters in Industrial Electronics from SJCE Mysore. She is MTech Gold Medallist from VTU. She worked in Industry majors like L& T Emsys, Intel, Microview Software Technologies for more than 14 years

Dr. V Bharat - FEM Expert and Academician

He is a Mechanical Engineer, PhD with a specialization in Powder metallurgy. He has an over 16 years of academic experience

Preetham – Assistant Director, IMTMA

He has 20+ years of experience from Nuclear, Aerospace & Automation industry. Prior to IMTMA, he has worked at Avasarala Technologies Limited, as Assistant Manager

Ganapathi KN – Advisor, Industry and Academic Expert

Is presently working as Advisor at IMTMA, having 16 years of industrial and 16 years of academic and training experience. He has a thorough knowledge of Materials, Metallurgy, Metal casting and heat treatment processes

For Registration Contact

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REGISTRATION : Prior registration for participation is necessary. Number of participants is limited and will be accepted on ‘First Come First Serve’ basis. A Certificate of participation will be issued to participants.
Important Information : Participation fee includes, course material, working lunch and tea / coffee. Interested companies are requested to register online by clicking on 'REGISTER' button and by filling up the nomination authority and participant's details in specified form.