Manufacturing Technology Training
An IMTMA initiative

Machine Tool Design - SPM
Date : 1 July to 17 August, 2026
Venue : IMTMA Technology Centre, Pune

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	
IMTMA Members/ Micro Companies/ IMTMA Non Members/ Others	**Individuals/ Educational Institutions / Students/ Professors/ Student**	**Overseas Participants**

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

This programme will be conducted by, IMTMA Subject Matter Experts.

Faculty 1 - He is Former Asst. General Manager, Machine Design & Business Development, Tata Motors Machine tools division, Pune. He is an industry expert with over 37 years of rich experience in Design & Development of General purpose & Special purpose Machine tools.

Faculty 2 - He is a Post Graduate Mechanical Engineer, having Strong academic and professional background in Machine Design, analysis and Project Management. Fluency in CAD/CAM and CAE. Very well versed in different manufacturing processes including machining, sheet metal fabrication, welding fabrication, castings and heat treatment, structural design, electro mechanical, hydraulic and pneumatic systems.

More than 38 years rich experience in design of CNC machine tools, Special Purpose Machines, High Speed Packaging Machines and Industrial Automation. Worked in different capacities with reputed organizations – Forbes, Bajaj Auto, Greaves, Premier – Machine Tools, TAL Limited, ACG-Worldwide. Have designed more than 100 CNC SPMs , launched @ 15 new products in market and a Recipient of FIE foundation award during IMTEX 2011 for the development of 5 axis CNC machine and 3 axis gear shaving machines.

Worked as a faculty for 5 years with Govt. Engineering College, Aurangabad for their part time M.E. course. I taught the subjects - Advanced Machine Stress Analysis, FEA, Tribology, Dynamics of Machinery and Product Design.

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.