Manufacturing Technology Training
An IMTMA initiative

Hands on Training on “Machine Tool Design – Special Purpose Machine (SPM)”

Date : 12 May to 7 July, 2025
Venue : IMTMA Technology Centre, Bengaluru

Last date for registration 05 May 2025

Early Bird Offer : Avail 10% concession by registering and paying online on or before 27 April 2025

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

Facilities

- Advanced CAD Laboratory & Digital Classroom
- AUTOCAD, INVENTOR, SOLIDWORKS, CREO & ANSYS, Eplan, Camworks
- Hands-on experience for solid modeling, FEA
- Mechanical laboratory for the demo of in-use machine systems
- Complete Design Project as an exercise
- Hydraulic And Pneumatic Teaching Modules
- Real-time CNC Machine tools for demo
- Functional CNC Lathe and Machining Centres for demonstration

PARTICIPATION FEE

Rs. 65000/-	Rs. 50000/-	Rs. 75000/-	USD 3000/-
+18% GST	+18% GST	+18% GST	
IMTMA Members/ Micro Companies	**Individuals**	**IMTMA Non Members/ Others**	**Overseas Participants**

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

For Registration Contact

B.L Patil
Programme Coordinator
+91 7899799296
blpatil@imtma.in
Back End Operations
9742626488
enquiry@imtmablr.com

Contact Address

INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION
@ BIEC, 10th Mile, Tumkur Road, Madavara Post,
Bangalore - 562 123
Tel : 080-66246600
Fax : 080-6624-6658

imtmatrainning.67038796@hdfcbank

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.

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