Manufacturing Technology Training
An IMTMA initiative

Hands on Training on “Machine Tool Design – Special Purpose Machine (SPM)”
Date : 9 February to 13 April, 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/-
+18% GST
IMTMA Members/ Micro Companies/ IMTMA Non Members/ Others

Rs. 50000/-
+18% GST
Individuals/ Educational Institutions / Students

USD 3000/-
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

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

Shivakumar – Industry Expert

He is an industry expert with over 25 years of rich experience in the Design & Development of CNC Machines. Presently Mr. Shiva Kumar is a Technical Consultant to THK India Pvt Ltd

Subramanya P – Industry Expert

He is an M Tech graduate from IIT Madras and MBA from Bangalore University. He has over 30 years' experience in Various Positions in HMT in Design and Development and ITC Limited

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

PARTICIPANTS FEEDBACK

The experience is out of words. The knowledge i have now and i had before is incomparable. If anyone is looking to gain a deep insight into the job of mechanical engineer in the industry i would like to suggest them to visit IMTMA once and take a course they are offering for all individuals. The information they provide, and the inputs we get from faculty here is worth every bit. Overall just superb.

Mr. Darshan Yatheesh, University of Canterbury, New Zealand - Design Engineer at Ucam

I blindly suggest the passionate engineers who want to aspire in design career.. I joined IMTMA DESIGN TRAINING COURSE. later changed my reality of difference between a CAD Jockey and a designer....before joining IMTMA, I attended a interview where they told me you are poor at mechanical fundamental and it's highly impossible to get a job because you are literally poor at mechanical fundamental, I lost all the hopes in life as a mechanical engineering, I felt like the industry doors are shut to me, but the MD of the industry where I went for my first interview suggested me on IMTMA Design course. After joining IMTMA everything changed. I was worried about the job but I got the job in the middle of the course...I thank all the IMTMA faculty for their support, guidance and delivering impeccable knowledge to us, the faculty in IMTMA are having more than 30+years of experience in design field highly skilled faculty, even sometimes if you are lucky enough the CEO of MNC company will come and teach you..!!!

Mr. Nitin B D, Rajeev Institute of Technology (VTU), Hassan - Design Engineer at Vinnovative Engineering

This course is very good for fresher before getting job we had practical experience how the companies will work on designing.

Mr. Mallela Purusotham Reddy, Mother Theresa Institute of Engineering and Technology, Palamaner - Design Engineer at HCL

The best experience to get to know the actual usage and applications of the formulas for different parts. How to think about design and what all do we need to consider while making a drawing and on what basis various parameters are applied for a drawing.

Mr.Kushal. R. K, KLE Dr M S Sheshgiri College of Engineering and Technology - Design Engineer at Micromatic Grinding Technologies Pvt Ltd

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.