Manufacturing Technology Training
An IMTMA initiative

Intensive Course in Production Engineering - Handson Workshop Pune

Date : 4 August to 2 September, 2025
Venue : IMTMA Technology Centre, Pune

Last date for registration 28 July 2025

INTRODUCTION

An engineer stepping into the manufacturing domain needs to know the complete spectrum of activities of converting **ART to PART** with a holistic approach. Hence IMTMA has developed this course in consultation with industries covering Manufacturing Drawing, Process Planning, Tooling and Fixturing, CNC Programming and Operations, and Quality Control / Assurance. The Engineers will be trained in the above topics with Hands-on practice in various machines, CAD/CAM, Measuring Instruments, and other accessories.

This course will enable the engineers to get complete orientation in the latest manufacturing practices as adopted in a modern shop floor and equips them with the necessary knowledge and skills. After completion of this course, engineers would be confident to start their career in manufacturing industries in multiple functions including Manufacturing Engineering, Production, Quality, Vendor Development, Service and Application etc,

Employees from various companies like Bajaj Auto, SKODA Auto Volkswagen, Dana Anand Group, Enpro, Alex Machine Tools, Setco Spindles, TVS Motors, Maruti Suzuki, Hero Moto Corp, Sansera Engineering, Wabco India, Leo fasteners, Kar Mobiles etc. have participated and have achieved Productivity and Quality improvement in their projects by implementing some of the key learnings from such courses.

FOCUS AREAS

Manufacturing Drawings and Work Material -

- Manufacturing Drawing Reading including Interpretation.
- Limits, Fits, Tolerances, GD&T, Surface Roughness: Importance in Manufacturing
- Types of engineering materials, properties, and Heat treatment processes

Manufacturing Process –

- Various Machining processes and optimization of cutting parameters.
- Work holding and fixturing.
- Hands-on practice in Tooling, Work Holding, and other accessories
- Process Planning for manufacturing.
- Cutting Tools and Tool Holders for various metal cutting processes.
- CNC Programming: Basics and advanced and hands-on practice on simulation softwares
- Hands-on practice in CNC Turning and Machining centres
- Cycle time calculation and optimization

Quality and Inspection –

- Hands-on practice in measuring instruments, Digital Height Guage, CMM, VMM,
- Dimensional and Geometric Tolerances: Measurement & Quality Control
- Introduction to statistical process control (SPC)
- Analysis and trouble shooting for machining defects

Overall Equipment Effectiveness (OEE)

- Overview of Industry 4.0
- 5S concepts and KAIZEN
- Autonomous Maintenance (JH) – one of the main pillars in TPM
- Industry Visits

Soft skills development -

- Presentation Skills, E-mail etiquettes

Project work and Evaluation -

- Assessment through the presentation, test, viva, and practicals.

KEY TAKE AWAYS

After undergoing the programme, the participants will gain:

- Comprehensive Hands-on knowledge on production to despatch
- Gain Confidence and competitiveness to be a successful engineer
- Exponential career growth in manufacturing industries
- In-depth understanding of CNC machines and their aggregates
- Thorough knowledge of CNC programming and its optimization for higher productivity
- Confident to take right decisions on machines, processes, tools, and fixtures based on process planning
- Collaborative working skills with people, machines, and process
- A complete insight into Computer Integrated modern Manufacturing environment
- Ability to develop process plan for machined parts
- Practical inputs about the selection of tools & cutting parameters for various CNC machining operations
- Practice in Measuring instruments and equipment for quality control of parts

Training Methodology

- Training in Modern manufacturing set up with CNC machines, CAD/CAM/CAE,VMM and CMM
- Learning by Doing: Blend of Classroom (40%) and practical sessions (60%)
- Exercises in Manufacturing Drawing, Process Planning, Tooling, and Fixturing
- Hands-on training sessions in CNC Turning & Vertical Machining Centres
- CNC Programming using Simulation of FANUC and SIEMENS control systems.
- Project work with real-time machining of components in CNC machines
- Hands-on practice in various measuring instruments used in the production shop
- Presentation / Exercises to acquire the necessary Soft skills
- Weekly Assignments and Tests
- Mock interviews with preparation for placement interviews
- Final evaluation and certification

Facilities

IMTMA Technology Centre at Chinchwad, Pune is equipped with state of the art training facilities viz.

- Modern Manufacturing set up with CNC machines, CAD/CAM/CAE and accessories
- CNC Vertical Machining Centre & CNC Turning Centre
- CNC Simulators for FANUC and SIEMENS controllers
- Mechanical Press, Hydraulic Press and Complete set of Dies – Blanking, Forming ,Cam Piercing and checking Fixture
- Rotary Swaging Machine and Demo dies
- Advanced Laser Marking Machine
- Metrology Lab with measuring instruments, digital height gauge, Vision Measuring Machine and CMM
- Surface roughness tester
- Accessories: Touch probes, Tool Holders and Zero point clamping systems and Electromagnetic clamping systems
- Latest types of cutting tools and work holding systems
- CAM Programming: Cadem and Mastercam CAD/CAM Softwares
- Digital Network Classroom with computer workstations

PARTICIPATION FEE

Rs. 36000/-	Rs. 28000/-	USD 1440/-
+18% GST	+18% GST	Overseas Participants
IMTMA Members/ Micro Companies/ IMTMA Non Members/ Others	Individuals	

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

Participant Profile

- **Engineers/supervisors from manufacturing industries, responsible for productivity and quality improvement.**
- New recruits/trainees in manufacturing industries.
- **Fresh Mechanical Engineers after completion of their Degree / Diploma in Mechanical or allied disciplines.**
- Pre-final year engineering students from Mechanical or allied disciplines.
- **Design engineers who are willing to have a strong foundation through hands-on training in the latest manufacturing practices.**

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.

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