Manufacturing Technology Training
An IMTMA initiative

Hands-on Training in Dimensional Metrology and Inspection
Date : 17 to 21 February, 2025
Venue : IMTMA Technology Centre, Pune

INTRODUCTION

Dimensional Inspection assess the Geometric characteristics of Parts & Products to assure their compliance with Design requirements and verifies the accuracy of product features that can decide reliability and functionality of the product / production. Engineers & Technicians involved in manufacturing processes and measurement applications need to have sound knowledge in proper selection, application, and care of typical measurement systems. Best practices in dimensional metrology need to be followed for obtaining reliable measurements.

Keeping this in view, Indian Machine Tool Manufacturers' Association is organizing a training programme on **Dimensional Metrology and Inspection** at Pune. This programme will enhance the level of competency in usage of precision hand tools, bench top measuring instruments, attribute gages and other advanced measuring systems including surface roughness tester, VMM and CMM.

FOCUS AREAS

- Fundamentals of Precision measurement
- Types of Data - Variable vs Attribute
- Laws of metrology - Abbes Law and Comparators law
- Measurement of GD&T parameters
- References and standard gages
  - Gage blocks
  - Surface plates
  - Cylindrical masters
- Proper use and applications of Basic "Hand" Tools – mechanical and digital type
  - Calipers
  - Micrometers
  - Digital Height gauge
  - Indicators – Plunger and Lever type
- Types, Selection and proper use of Attribute gages
  - Cylindrical
  - Thread
  - Radius
- Common applications of pneumatic gauges
- Introduction to Advanced Measurement Systems
  - Surface roughness tester
  - Video measuring system
  - Coordinate Measuring Machines (CMMs)
- Need of calibration of Measuring instruments &Gages
- **Practical session on CMM, VMM, Surface Roughness tester and Measuring Instruments**

KEY TAKE AWAYS

After undergoing the programme, the participants will be able to -

- Develop awareness, knowledge and skills necessary for the reliable measurement application / assessment ofmeasurement quality
- Evaluate correct measuring methods / comparative measurements
- Get Hands-on practice in handling various measuring instruments
- **Have overview of advanced measuring systems including CMM**

PARTICIPATION FEE

Rs. 16500/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 660/-
Overseas Participants

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

PARTICIPANT PROFILE

This programme is applicable for anyone who wishes to learn the basic tools and techniques required for reliable measurement. This will benefit Engineers, technicians, machinists, toolmakers, etc involved in Quality Assurance / Quality Control, Production, Manufacturing Engineering, Design and R&D functions of manufacturing industries.

The programme will be practical oriented with hands-on practice in various measuring instruments. Participants would be encouraged to raise questions and solicit feedback from the expert faculty.

FACULTY

The programme will be conducted by **Mr. Yuvaraj Patil,**

Mr. Yuvaraj Patil is a mechanical engineer having more than 16 years of experience in CNC Machine Shop & Tool Room. He has worked with various companies – ASB International, Videocon, Menon & Menon and PARI. Additionally, he has 9+ years of experience in training engineers in CNC Machining area with hands-on practice.

He has trained 2000+ Industry professionals in the CNC Machining area, Dimensional Metrology, and Inspection. And trained 400+ fresh graduate mechanical engineers in Production engineering for making engineers industry ready.

Also, he has conducted the training program on Machining fundamentals, Dimensional Metrology, and GD & T for Sigma Electrical, Maruti Suzuki, Volkswagen, Mahindra and ENPRO.

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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.