MECHANICAL DRAWINGS, SYMBOLS AND DOCUMENTATION FOR ENGINEERS

COURSE OVERVIEW

This hands-on course provides engineers and technical professionals with essential skills in understanding, creating, and managing mechanical drawings and associated documentation. It covers industry-standard practices for interpreting drawings, using standardized symbols, applying geometric dimensioning and tolerancing (GD&T), and preparing comprehensive engineering documentation packages. Participants will gain a working knowledge of mechanical design communication, improve their documentation accuracy, and enhance coordination across engineering and production functions.

Whether you're working in design, maintenance, manufacturing, or project execution, this course helps ensure clear technical communication through properly developed mechanical drawings and documents.

DATES, VENUES AND FEES

21 – 25 December 2025 - Dubai

(5 Days)

Fees US$ 4500

Note: Fee is per participant + 5% VAT (if applicable).
Groups from the same company can enjoy a **discounted** price.

WHO SHOULD ATTEND?

This course is appropriate for a wide range of professionals but not limited to:

- Mechanical, maintenance, project, and design engineers
- Draftspersons and CAD technicians
- QA/QC inspectors and technical supervisors
- Technical writers and document controllers
- Engineering graduates or technicians transitioning to design roles
- Professionals involved in fabrication, procurement, and equipment installation

CONTACT US NOW

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ACCREDITATION

This training course is certified by CPD.

The CPD Certification Service is the leading independent CPD accreditation institution operating across industry sectors to complement the Continuing Professional Development policies of professional institutes and academic bodies. The CPD Certification Service provides support, advice, and recognised independent CPD accreditation compatible with global CPD principles. CPD is the term used to describe the learning activities professionals engage in to develop and enhance their abilities and keep skills and knowledge up to date. CPD Units are only awarded to programmes after each programme is scrutinised to ensure integrity and quality according to CPD standards and benchmarks.

COURSE CERTIFICATE

MSTC certificate will be issued to all attendees completing a minimum of 80% of the total tuition hours of the course.

CPD internationally recognized certificate will be issued for all participants who will meet the course requirements.
CPD certificates will be issued within a month of the successful completion of the course.

TRAINING METHODOLOGY

- Expert-led sessions with dynamic visual aids
- Comprehensive course manual to support practical application and reinforcement
- Interactive discussions addressing participants' real-world projects and challenges
- Insightful case studies and proven best practices to enhance learning

LEARNING OBJECTIVES

By the end of this course, participants should be able to:

- Interpret mechanical drawings and engineering symbols accurately.
- Create and modify mechanical drawings in accordance with international standards (ISO, ASME).
- Apply correct GD&T symbols, welding symbols, and surface finish notations.
- Understand and produce drawing sets, BOMs, and technical documentation.
- Implement effective drawing control and revision systems.
- Interface mechanical drawings with digital tools such as CAD and PDM systems.
- Support engineering projects with accurate, standardized documentation.

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COURSE OUTLINE

DAY 1

Fundamentals of Mechanical Drawings

- Pre test
- Purpose and types of mechanical drawings
- Drawing standards (ISO, ASME Y14, DIN)
- Line types, scales, views (orthographic, isometric)
- Title blocks, borders, drawing numbers, and sheet formats
- Introduction to CAD-based and manual drawing conventions
- Exercise

DAY 2

Sectional Views, Dimensions, and Tolerancing

- Orthographic views and projection methods
- Sectional views: full, half, broken-out, revolved
- Dimensioning methods and practices
- Tolerancing fundamentals: linear, angular, and fits
- Chain vs. baseline dimensioning
- Exercise

DAY 3

Symbols and Standards Interpretation

- Geometric Dimensioning & Tolerancing (GD&T) basics
- Feature control frames, datums, tolerance zones
- Welding symbols and their applications
- Surface finish symbols and roughness measurements
- Thread and fastener notation
- Exercise

DAY 4

Assemblies and Technical Documentation

- Assembly drawings and exploded views
- Creating and interpreting bills of materials (BOMs)
- Drawing packages: component vs. general arrangement
- Revision management and drawing control systems
- Documenting vendor data, as-built conditions, and field updates
- Group exercise

DAY 5

CAD, Digital Tools, and Best Practices

- CAD file management and layer control
- Interfacing with PDM/PLM systems
- Digital review, markup, and redlining practices
- Integrating drawings into asset management workflows
- Quality checks and drawing audit processes
- Final workshop: Create and review a complete drawing set
- Post test

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