



Course Introduction:

Mechanical Blueprint Reading is a fundamental skill required for engineers, technicians, and manufacturing professionals involved in the interpretation of technical drawings and schematics. This training course provides a structured approach to understanding the symbols, views, dimensions, and tolerances used in mechanical blueprints. Participants will gain a solid theoretical foundation that allows them to read and analyze engineering drawings accurately, ensuring precision in manufacturing, assembly, and quality control.

This five-day course is designed to help attendees develop a deep understanding of mechanical drawings. The training will cover essential topics such as drawing standards, title blocks, geometric dimensioning and tolerancing (GD&T), sectional views, and common manufacturing symbols. By the end of the course, participants will be able to interpret and analyze blueprints effectively, ensuring alignment with engineering specifications and industry standards.

Course Objectives:

Upon completion of this course, participants will:

- Understand the purpose and importance of mechanical blueprints.
- Identify and interpret different types of engineering drawings.
- Read and analyze title blocks, revision tables, and drawing notes.
- Recognize and understand standard symbols, abbreviations, and line types.
- Interpret dimensions, tolerances, and fits according to engineering requirements.
- Comprehend section views, auxiliary views, and exploded views.
- Apply knowledge of geometric dimensioning and tolerancing (GD&T).
- Understand the relationship between blueprints and manufacturing processes.

Who Should Attend?

This course is designed for professionals and individuals such as Engineers and designers new to mechanical drawings, Manufacturing and production personnel, Quality control and inspection staff, Maintenance and repair technicians, and Procurement and supply chain professionals dealing with technical specifications.

Course Outline:

Day 1: Introduction to Mechanical Blueprints

- Importance and applications of mechanical blueprints.
- Basic elements of a technical drawing.
- Overview of drawing standards (ISO, ANSI, ASME).
- Title blocks, revision tables, and drawing notes.
- Line types, symbols, and abbreviations in mechanical drawings.

Day 2: Views and Projection Methods

- Understanding orthographic projections (1st and 3rd angle).
- Isometric, auxiliary, and perspective views.
- Sectional views and their applications.
- Exploded and detailed views for assembly drawings.
- Identifying missing or incomplete information in drawings.

Day 3: Dimensions, Tolerances, and Fits

- Basics of dimensioning and measurement units.
- Tolerance types and their significance in manufacturing.
- Limits, fits, and allowances.
- Surface finishes and their representation in drawings.
- Importance of clear and precise dimensions in production.

Day 4: Geometric Dimensioning and Tolerancing (GD&T)

- Introduction to GD&T and its importance in engineering.
- Key GD&T symbols and their meanings.
- Datums and feature control frames.
- Positional tolerances and how they affect manufacturing.
- Interpreting GD&T in real-world engineering applications.

Day 5: Blueprint Analysis and Review

- Reviewing complex engineering drawings.
- Identifying potential manufacturing challenges from blueprints.
- Cross-referencing blueprints with production and quality control.
- Case study discussions (theory-based analysis).
- Q&A session and final course review.

Course Methodology:

A variety of methodologies will be used during the course that including:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Fees:

To be advised as per course location. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session