Detailed Engineering Drawings, Codes & Standards: Reading, Interpreting, and Developing P&IDs

Energy Milestones Corporation

Advancing Professionals to the next level

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Overview

This course is designed to provide participants with a comprehensive understanding of detailed engineering drawings, codes, and standards. It covers the interpretation of drawings in a multidisciplinary environment, including plant layout, mechanical, structural, instrumentation, and piping (P&ID); mechanical engineering drawings based on design information; and the interpretation of codes, standards, and specifications in engineering drawings.

Course Objectives

- Interpret drawings in a multi-disciplinary environment, such as plant layout, mechanical, structural, instrumentation and piping (P&ID)
- Produce mechanical engineering drawings from design information
- Interpret codes, standards and specifications and apply them in engineering drawings
- Prepare hand sketches of a number of mechanical components and participate in a series of blueprint reading exercises
- Read, interpret and extract information from mechanical & piping arrangement drawings and piping & instrumentation drawings (P&ID

Course Content

1. Introduction
   - Plant Layout Disciplines
   - Defining Priorities in Design Drafting
   - Orthographic Projection
   - Isometric Projection
   - Linework & Symbology

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Course Content

2. Working Drawings

- Mechanical
- Structural, Piping & Instrumentation
- Title Blocks
- Revisions
- Metric &Imperial Scales
- Dimensioning

3. Field Sketching

- Freehand Sketching &Lettering
- Notes
- Sketching in the Field or Plant

4. Plant Design Drawing Interpretation

- Terminology Used in Plant Design Drawings
- Dimensioning

5. Piping Terminology

- Process Flow Diagram
- Development of Process & Instrumentation Diagram (P&ID)

6. Piping Drawing Interpretation Piping

7. B31.1, B31.3 Codes

8. Instrumentation

9. Piping &Instrumentation Drafting Standards Drawing

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Targeted Audience

This course covers systematic techniques for reading, interpreting, and developing detailed engineering drawings, as well as codes and standards, for managers, engineers, supervisors, and other technical staff. Further, the course is essential for designers and draftspersons in the plant design field as well as for piping fabricators and suppliers.

Course Methodology

Facilitated by an experienced professional trainer, this training course will be conducted as a highly interactive workshop session. A variety of training methodologies and facilitation techniques will be employed before and during the course, as applicable. These methods are aimed at enhancing individual and group interaction while maximising learning. Some of these methods are:

- Online Pre-post Test
- Colourful Visual Aids
- Gamification
- Self-Assessment Instruments
- Simulations
- Case Studies
- Videos
- Group Exercises & Discussions
- Role plays
- Indoor & Outdoor games