

AutoCAD Plant 3D Essentials

Duration:

3 Days

The duration of the course is 3 days, these 3 days will be used to learn the trainees the essential functionalities of AutoCAD Plant 3D so that they can start using AutoCAD Plant 3D from day one. During the course the trainees will make several exercises to practice the skills learned and after the course the trainees will be able to use AutoCAD Plant 3D in their daily work.

Course Objectives:

In this 3 day course you will learn how to use AutoCAD Plant 3D to generate your 3D Piping models, create Isometric drawings and Orthographic drawing. During the course the trainees will learn how to set-up steel structures including stairs and ladders, create equipment, route 3D piping and create Isometric- and Ortho graphic drawings with the standard functionalities of AutoCAD Plant 3D. Also the basics of the spec and catalog editor will be taken care of during this course. After the course you will be able to use AutoCAD Plant 3D in your daily work creating, modifying and managing piping designs.

After completing the course the trainees should be capable of creating 3D models of their designs with AutoCAD Plant 3D. They also have learned to generate isometric and orthographic drawings which can be used for pre-fabrication, installation and commissioning of the site that was designed.

Prerequisites:

To attend this training knowledge of and working experience with AutoCAD, the AutoCAD 3D environment and AutoCAD P&ID. Knowledge of process and instrument diagrams, isometric drawings, steel structures and equipment is recommended but not essential, however it will be easier to follow the course if the trainee has some basic knowledge of the process industry.

AutoCAD Plant 3D Essentials Course Outline:

Introduction

- The AutoCAD Plant 3D User Interface
- Ribbons
- Tool Palettes
- The View Cube
- Project Manager
- Create a Project
- Creating Subfolders

Creating a P&ID

- To Create a P&ID

Structural Modelling

- Structural Modeller – Introduction
- Creating a Grid
- Editing an existing Grid
- Adding lines to the Grid
- Adding members
- Member settings
- Modifying structure members
- Adjusting and cutting members
- Lengthen members
- Cut back members
- Miter cut members
- Trim and extend members
- Cut member edges
- Restore member
- Using AutoCAD stretch to modify members
- Railings
- Railing settings
- Structure explode
- Modify rails using grips
- Creating ladders
- Placing the ladder
- Creating stairs
- Plates
- Modifying plates using Grips

Equipment Modelling

- Equipment modelling introduction
- Creating an equipment drawing
- Creating a reference for your equipment

- Equipment – Create
- Vessels
- Modify equipment
- Custom vessels
- Equipment in combination with AutoCAD solids
- Heat Exchanger
- Pumps
- Create custom models
- Save as a template
- Convert Solids to AutoCAD Plant 3D Models

Specification and Catalogue Editor

- Starting the spec generator
- Adding components to the spec
- Multiple catalogues, one spec
- Specs and tool palettes in AutoCAD Plant 3D
- Branches
- The Catalogue editor

3D Piping

- Setting up a 3D Piping drawing
- Routing pipe straight from the equipment
- Compass
- Additional pipe route options
- Size and specification
- Cutback elbow
- Roll elbow
- Stub-in
- Elevation and offset
- Elevation snapping
- Routing pipe manually
- Selecting options
- Hiding and showing model geometry
- Routing pipe using your P&ID
- Creating a branch
- Placing components manually
- Precise positioning of components
- Grips and icons
- Custom and placeholder parts
- Modify pipe runs
- Selection methods
- Hiding and isolating components

3D Piping (cont'd)

- Locking and unlocking components
- Changing spec and size
- Changing the valve size
- Pipe insulation
- Multi functional components
- Sloped pipe
- Copy and stretch pipe components
- Changing bolt sets
- Pipe supports
- Placing pipe supports using the tool palettes
- Changing and modifying pipe supports
- Converting solids to pipe supports
- Attaching and detaching solids
- Validating your pipe design

Creating Isometric drawings

- Setting up the interface
- Isometric types
- Adding Isogen information
- Isogen messages
- Quick Iso vs. Production Iso
- Quick Iso
- Production Iso
- Information on the Iso
- PCF Export

Creating orthographic drawings

- Orthographic drawings – introduction
- Creating an Orthographic drawing
- Creating your first view
- Creating detail views
- Section views
- Adding Annotations/Ortho annotate
- Adding Dimensions

The data manager

- The data manager
- Drawing data
- Zoom to
- Display record by symbol selection
- Adding and editing data

- Export
- Import
- Filter and sort data
- View selected items/View all but selected items
- Filter of Values
- Remove Filter
- Filter in tree view
- Sorting data