**AutoCAD Plant 3D**

AutoCAD Plant 3D, a product of Autodesk Inc, is a plant layout design software. It is extensively used in the industry to create and modify the P&IDs and 3D models of the process plants. Built on the AutoCAD platform, this software allows you to carry out the design process in a project based manner.

Mainprops Ltd’s AutoCAD Plant 3D training will help you to effectively use the designing tools in AutoCAD Plant 3D. The accompanying tutorials and exercises, which relate to the real world projects, help you understand the usage and abilities of the tools available in the software.

You will learn how to setup a project, create and edit P&IDs, design a 3D Plant model, generate isometric/orthographic drawings, as well as how to publish and print drawings. The classes are structured in a logical sequence which make it easy to learn the features and capabilities of the software.

# **COURSE OUTLINE**

# **Introduction To Autocad Plant 3d**

* Plant 3D user interface, Drawing Area, Command Window
* Tool bars, Tool Palettes, Ribbons, Customizing User Interface
* Different Workspaces in AutoCAD Plant 3D
	+ Changing Work Space
	+ Tool tips, tool pallets, property palettes & tray settings in different workspaces
	+ Navigation tools
* Starting AutoCAD Plant 3D
	+ New Tab, Learn, Create and Get Started
* AutoCAD plant 3D Project manager and Data manager
* Managing Files and Options
	+ Creating backup files
	+ Changing Auto-save and backup files in AutoCAD Format
	+ Using the Drawing Recovery Manager
* Selecting Drawing Units
* Accessing AutoCAD Plant 3D Help (Help, Community forums and AutoCAD Plant 3D Technical assistance site)

# **AutoCAD P&ID**

**Creating a Project and P&IDs**

* Tabs in AutoCAD plant 3D Project Manager (Source files, Orthographic DWG, Isometric DWG)
* Creating a new Project in AutoCAD Plant 3D
* Creating a new Drawing
* Grouping Project Files
* Designing a P&ID
	+ Adding Equipment, Pipe lines and Assigning Tags to lines
	+ Adding Valves, Instruments and Instrumentation lines
	+ Adding Fittings and Off Page Connectors
* Validating the drawing, Checking for Errors
* Editing the Drawing and P&ID Symbols
* Converting an AutoCAD component into P&ID symbols

Class Work 1

# **AutoCAD Plant 3D Drawings**

**Creating Structures**

* Creating a Layers
* Setting the Representation of Structural members
* Creating and editing grids
* Creating Structures
	+ Creating Footings
	+ Creating Structural members (Beams & Columns)
	+ Creating Platforms &Railings
	+ Creating Stairs & Ladders
* Editing Structures

**Creating Equipment**

* Creating Equipment form pre-defined equipment templates
* Placing Equipment in the Drawing
* Modifying Equipment
* Adding and modifying Nozzles on equipment
* Creating custom equipment
* Converting Solid Models into Equipment
* Adding Nozzles to a converted Equipment
* Attaching an Object to an Equipment
* Detaching an object from an equipment

Class Work

# **AutoCAD Plant 3D Piping**

**Working Piping Specs and Tools**

* Selecting a Spec
* Working with the Spec Viewer
* Adding a part to the Tool Palette
* Creating new Tool palette
* Inserting a Part from the Spec Viewer

**Routing Pipes**

* Routing a pipe with New Line number
* Setting the Route Line
* Routing a Pipe from a Line
* Routing a pipe using a P&ID
* Routing a pipe from an Equipment
* Working with the Compass and Snaps
* Connecting two Open Ports of Pipes
* Changing the Pipe Size during routing a pipe
* Changing orientation plane while routing a pipe
* Changing the Elevation while routing a pipe

**Adding Valves, Fittings, and Pipe Supports**

* Adding valves and Fittings to a pine using the Spec Sheet
* Adding Valves and Fitting from a P&ID
* Placing Valves and Fittings While Routing a Pipe
* Adding Pipe Supports
* Insulating a Pipe

**Modifying Pipe Components Using Grips**

* Substituting a pipe component
* Rotating and Flipping a pipe Component
* Changing the Pipe Elevation
* Changing Valve Operator

# **AutoCAD Plant 3D Specifications and Catalogs**

* AutoCAD Plant 3D Spec Editor
	+ Getting Started with AutoCAD Plant 3D Spec Editor
	+ Working with Spec Files
	+ Creating new Spec files from existing Spec
	+ Spec Sheet and Catalog Browser
	+ Adding parts to the Spec Sheet
	+ Editing the parts Added to a Spec
	+ Setting the Part Use Priority
* Working with Catalog Editor
	+ Piping Component Editor
	+ General property Tab
	+ Sizes Tab
	+ Creating a New Catalog from an Existing Catalog
	+ Adding a New part to a Catalog
	+ Creating a new component Using Parametric Graphics
	+ Creating a New Component using block based Graphics
* Modifying the Branch Table
	+ Creating Branch Table legends
	+ Assigning Legends to a Branch Table

# **Drawing Production in AutoCAD Plant 3D**

**Creating Isometric Drawings**

* Isometric Drawing Types
	+ Check Isometric
	+ Stress Isometric
	+ Final Isometric
* Creating a Quick isometric
* Creating a Production Isometric
* Configuring Isometric Drawing Setting

**Creating Orthographic Drawings**

* Generating the First View
* Ortho Cube Panel, Output Size Panel, Library Panel etc
* Create the Adjacent View
* Adding Annotation and Dimensions to the Drawing
* Editing and Updating Drawing Views

**Managing Data and Creating Reports**

* Data Manager Toolbar
* Editing Data in the Data Manager
* Exporting Data From the Data Manager
* Importing Data to the Data Manager
* Viewing Reports in the Data Manager
* Working with the Report Creator