AUTODESK.
Authorised Training Centre

AutoCAD
Plant 3D Essentials
CERTIFIED TRAINING

AUTODESK
Authorised Training Centre

AutoCAD Plant 3D Essentials Certified Training

Courseware Description

The plant design industry creates and communicates a vast array of information. Because the industry consists of many facets of design, the industry requires a broad solution. AutoCAD Plant 3D and Autodesk Navisworks are two separate software applications that work together to meet the requirements of a broad solution. In this training, you will learn about many of the general topics for plant design and the use of the AutoCAD Plant 3D software to create plant designs that meet your design requirements and workflows.

The objective of this training:

- Introduction to AutoCAD Plant 3D.
- Using AutoCAD P&ID.
- Using Navisworks.
- Setting up and administering a Plant project.

Duration

3 Days

Who Should Attend

- This course is designed for new AutoCAD and Plant Design user.

Pre-Requisites

- Working knowledge of Microsoft® Windows®.
- Basic knowledge in computing
- Essential knowledge in AutoCAD

Course Achievement

Autodesk ATC Certification of Completion shall be issued to participants with full attendance record upon training completion.

AUTODESK
Authorised Training Centre

Course Content

Chapter 1: Introduction to AutoCAD P&ID and Plant 3D

Lesson: Working in a Project
- About Projects
- Data Organization
- About the Project Manager
- About the Data Manager
- Work in a Project

Lesson: Opening a Drawing
- Opening Drawings
- Renaming Drawings
- Open a Drawing in AutoCAD Plant 3D

Lesson: Exploring the User Interface
- Task Specific Workspaces
- Task Specific Ribbons
- About Tool Palettes
- About the Properties Palette
- On-Screen Tools
- Explore the User Interface

Lesson: Managing Layers and Colours
- About Layers
- Manage Layers and Colours

Chapter 2: AutoCAD P&ID

Lesson: Creating a New Drawing
- Creating Project Folders and Sub-Folders
- Creating a Drawing
- Adding Existing Drawings to the Project
- Access Drawing Properties
- Create a New P&ID Drawing

Lesson: Equipment and Nozzles
- Adding Equipment
- Modify an Existing P&ID Symbol
- Adding Nozzles
- Adding Tag Information
- Equipment and Nozzles

Lesson: Piping

- Creating Lines
- Attaching Lines to a Component
- Annotating Lines
- Inserting Valves
- Grouping Lines
- Place Lines and Inline Components

Lesson: Instruments and Instrument Lines

- Adding General Instruments
- Adding Inline Instruments
- Using Instrumentation Lines
- Instruments and Instrument Lines

Lesson: Tagging Concepts

- View Existing Tag Numbers
- Linking Symbols to Multiple Drawings
- Add a Tag and Link Multiple Symbols to a Tag

Lesson: Annotation Concepts

- About Tag Data
- Annotating a Symbol
- Tag Styles
- Annotate Your P&ID

Lesson: Editing Techniques

- Applying Corners to Lines
- Linking Lines
- Creating Gaps in Pipe Lines
- Basic Line Editing
- Substitute Symbols
- Flow Arrow
- Modify the Layout of your P&ID

Lesson: Data Manager and Reports

- About the Data Manager
- Using the Data Manager
- Drawing, Project, and Report Data
- Exporting Project Data
- Importing Project Data
- Filtering Data in the Data Manager
- Use Data Manager to Review, Export, and Import Data

Lesson: Custom One-off Symbols

- Create a Custom P&ID Symbol
- Customize One-off Symbols

Lesson: Off Page Connections

- About Off-page Connectors
- Adding Off-Page Connectors
- Connecting Off-Page Connectors
- Delete an Off Page Connector
- Data Manager Edits and Off-page Connectors
- Add and Leverage Off Page Connectors

Lesson: Advanced Topics and Troubleshooting

- Creating New Class Definitions
- Creating New Component Symbols
- Adding Attachment Points to Symbols
- Creating Equipment Annotation Styles
- Validating Project and Drawings
- Convert and Create Symbols / Solve Validation Issues

Lesson: P&ID Admin for Users

- Locating Drawings
- Adding Project Categories
- Adding Properties to Categories
- Adding Drawing Properties
- Inserting Property Data
- Manage a P&ID Project

Lesson: Generating Reports

- About Project Reports
- Generating Reports Using Report Creator
- Generate Reports

Chapter 3: AutoCAD Plant 3D

Lesson: Creating Project Folders and Drawings

- Project Manager
- Creating Folders
- Create Project Folders and Drawings

Lesson: Steel Modelling and Editing

- Adding Structural Parts
- Configure the Settings
- Part Modification
- Build a Steel Structure

Lesson: Equipment Modelling and Editing

- Creating Equipment
- About Nozzles
- Equipment Templates
- Create Equipment

Lesson: Piping Basics
- Routing Pipe
- Modifying Pipe
- Valves and Fittings
- About Pipe Support
- Route Pipe and Add Fittings, Branch Connections, and Pipe Supports

Lesson: Piping Editing and Advanced Topics
- Copying Parts and Pipeline Sections
- Managing Changes in X-Ref files
- Placeholder and Custom Parts
- Selecting an Entire Pipe Run
- Isolate, Hide, and Lock Pipe Runs
- Modify and Reuse Data

Lesson: Working with P&ID Data in Plant 3D
- About Working with P&ID Data in Plant 3D
- Using the P&ID Line List to Place Lines and Inline Equipment
- Validating the P&ID and Plant 3D Designs
- Add and Validate Pipelines Using the P&ID Line List

Lesson: Creating and Annotating Orthographic Views
- About Orthographic Drawings
- Creating and Editing Orthographic Views
- Annotations and Dimensions
- Updating Orthographic Drawings
- Create and Annotate Orthographic Views

Lesson: Creating Isometric Drawings
- About Creating Isometric Drawings
- Creating, and Adding Data to Isometric Drawings
- Specification Sheets and Files
- Process to Create Isometric Drawings
- Create Isometric Drawings

Chapter 4: Autodesk Navisworks

Lesson: File Handling
- File Types
- Setting File Units
- Sharing
- Troubleshooting
- Work with Navisworks Files

Lesson: Basic Navigation and Walkthrough
- Viewing a Model
- Selecting Objects in a Model
- Viewing Object Properties
- Navigate Your Way through a Design

Lesson: Clash Detection
- Conducting a Clash Test
- Clash Detective
- Conduct Clash Tests

Lesson: Highlights of Scheduling, Animation, and Rendering
- Timeliner
- Animations
- Presenter
- Work within the Fourth Dimension

Chapter 5: Setting up and administering a Plant Project

Lesson: Overview of Project Setup
- Opening an Existing Project
- Creating a New Project
- Default Drawing Templates
- Project Folders
- Set Up and Structure Your Project

Lesson: Overview of Project Structure and Files
- About the Data and Files in a Project
- New Drawing Creation Locations
- Managing Files and Folders in Moved or Copied Projects
- Working with Plant 3D and P&ID Drawings in AutoCAD
- Manage Your Project

Lesson: Setting Up Larger Projects
- Setting Up a Project for Multiple User Access
- Configuring the File Name Format
- Locking the Project Properties
- XREF Demand Load
- Set Up a Project for Multiple Users

Lesson: Defining New Objects and Properties
- Creating Symbols and Setting Color and Layer
- Add Properties as Selection List and Acquire Functions
- Setting a Tag Format
- Creating a Custom Annotation Style
- Create Symbols and Set Up the Tagging Scheme

Lesson: Customizing Data Manager
- Default Reports and Views in the Data Manager
- Modifying Existing Reports
- Setting up Data Manager Views Used in the Project
- Configuring a Custom Report
- Setting up Export and Import Settings
- Create Views and Manage Reports

Lesson: Creating and Editing Drawing Templates and Data Attributes

- About Property Fields
- Custom Properties
- Process of Moving AutoCAD Templates to Plant 3D Templates
- Create a Template for AutoCAD Plant 3D

Lesson: Specs and Catalogs

- Spec Editor
- Process: Editing Parts
- Catalogs
- Configure Specs and Catalogs

Lesson: Isometric Setup

- About Iso Styles
- Iso Style Customization
- Setting Up the Bill of Materials (BOM)
- Creating and Configuring a New Iso Style
- Setting up a Custom Title Block for Iso Drawings
- Exercise: Create a Custom Isometric Drawing Set Up

Lesson: Troubleshooting

- Validating Drawings
- Auditing Drawings
- Quick ISO
- ISO Congestion
- Exercise: Troubleshooting

Lesson: Setting Up SQL Express for AutoCAD Plant 3D

- About Plant 3D Databases
- Setting Up to Use a Server Database
- Installing SQL Server Express
- Introduction to Setting Up SQL Server to Allow Connections
- SQL Server Express Configuration and Management
- Creating a New Plant 3D Project that Uses SQL Server Express
- Converting a Project to SQL Server
- Install SQL Express and Set Up Plant 3D Projects to Use SQL Express

Lesson: Creating and Managing Report Configurations

- About Report Configuration Files
- Location of Report Configuration Files
- Creating and Editing Report Configurations
- Configuring Report Queries
- Customizing the Report Layout
- Fields, Calculated Fields, and Expressions
- Styles for Reports and Cells
- Create and Manage Report Configuration Files

Note : The Course duration is a guideline. Course topics and duration may be modified by the instructor based on the knowledge and skill level of the course participant.