AUTODESK PLANT DESIGN ESSENTIAL TRAINING

Objectives

Learn how to use the AutoCAD® P&ID and AutoCAD® Plant 3D and software to complete a plant design project. This comprehensive training includes all common workflows for plant design plus a focus on project setup and administration. At the end of this training you will able to:

- To be proficient in using AutoCAD Plant 3D
- To be proficient in using AutoCAD P&ID
- Apply Naviswork in for plant coordination
- Setting up and administering a Plant project

Duration

5 Days

Training Programme Day 1

Chapter	Topic	Duration	Time
Chapter 1: Introduction to AutoCAD P&ID and Plant 3D	**Lesson 1: Working in a Project** • About Projects • Data Organization • About the Project Manager • About the Data Manager • Work in a Project	0.5-Hour	09.00 am – 09.30 am
	Lesson 2: Opening a Drawing • Opening Drawings • Renaming Drawings • Open a Drawing in AutoCAD Plant 3D	0.5 Hour	09.30 am – 10.00 am
	Lesson 3: Exploring the User Interface • Task Specific Workspaces • Task Specific Ribbons • About Tool Palettes • About the Properties Palette • On-Screen Tools • Explore the User Interface	0.5-Hour	10.00 am – 10.30 am
	Lesson 4: Managing Layers and Colors • About Layers • Manage Layers and Colors	0.5 Hour	10.30 am – 11.00 am

Chapter 2: AutoCAD P&ID	Lesson 1: 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	1--Hour	11.00 am – 12.00 pm
	Lesson 2: Equipment and Nozzles • Adding Equipment • Modify an Existing P&ID Symbol • Adding Nozzles • Adding Tag Information • Equipment and Nozzles	1 Hour	12.00 pm – 01.00 pm
	Lesson 3: Piping • Creating Lines • Attaching Lines to a Component • Annotating Lines • Inserting Valves • Grouping Lines • Place Lines and Inline Components	1-Hour	02.00 pm – 03.00 pm
	Lesson 4: Instruments and Instrument Lines • Adding General Instruments • Adding Inline Instruments • Using Instrumentation Lines • Instruments and Instrument Lines	1- Hour	03.00 pm – 04.00 pm
	Lesson 5: Tagging Concepts • View Existing Tag Numbers • Linking Symbols to Multiple Drawings • Add a Tag and Link Multiple Symbols to a Tag	0.5- Hour	04.00 pm – 04.30 pm
	Lesson 6: Annotation Concepts • About Tag Data • Annotating a Symbol • Tag Styles • Annotate Your P&ID	0.5- Hour	04.30 pm – 05.00 pm

Chapter	Topic	Duration	Time
	Lesson 7: 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	1-Hour	**09.00 am – 10.00 am**
	Lesson 8: 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	1.5- Hour	**10.00 am – 11.30 am**
	Lesson 9: Custom One-off Symbols • Create a Custom P&ID Symbol • Customize One-off Symbols	1.5-Hour	**11.30am – 01.00 pm**
	Lesson 10: 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	1- Hour	**02.00 pm – 03.00 pm**
	Lesson 11: 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	1-Hour	**03.00 pm – 04.00 pm**

Chapter	Topic	Duration	Time
	Lesson 12: 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	0.5- Hour	04.00 pm – 04.30 pm
	Lesson 13: Generating Reports • About Project Reports • Generating Reports Using Report Creator • Generate Reports	0.5- Hour	04.30 pm – 05.00 pm

Chapter	Topic	Duration	Time
Chapter 3: AutoCAD Plant 3D	**Lesson 1: Creating Project Folders and Drawings** • Project Manager • Creating Folders • Create Project Folders and Drawings	1-Hour	09.00 am – 10.00 am
	Lesson 2: Steel Modeling and Editing • Adding Structural Parts • Configure the Settings • Part Modification • Build a Steel Structure	1- Hour	10.00 am – 11.00 am
	Lesson 3: Equipment Modeling and Editing • Creating Equipment • About Nozzles • Equipment Templates • Create Equipment	1-Hour	11.00 am – 12.00 pm
	Lesson 4: Piping Basics • Routing Pipe • Modifying Pipe • Valves and Fittings • About Pipe Support • Route Pipe and Add Fittings, Branch Connections, and Pipe Supports	1- Hour	12.00 pm – 01.00 pm

	Lesson 5: Piping Editing and Advanced Topics • Copying Parts and Pipeline Sections • Managing Changes in Xref files • Placeholder and Custom Parts • Selecting an Entire Pipe Run • Isolate, Hide, and Lock Pipe Runs • Modify and Reuse Data	**1-Hour**	**02.00 pm – 03.00 pm**
	Lesson 6: 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	**1-Hour**	**03.00 pm – 04.00 pm**
	Lesson 7: Creating and Annotating Orthographic Views • About Orthographic Drawings • Creating and Editing Orthographic Views • Annotations and Dimensions • Updating Orthographic Drawings • Create and Annotate Orthographic Views	**0.5- Hour**	**04.00 pm – 04.30 pm**
	Lesson 8: 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	**0.5- Hour**	**04.30 pm – 05.00 pm**

Chapter	Topic	Duration	Time
Chapter 4: Navisworks	**Lesson 1: File Handling** • File Types • Setting File Units • Sharing • Troubleshooting • Work with Navisworks Files	**1-Hour**	**09.00 am – 10.00 am**
	Lesson 2: Basic Navigation and Walkthrough • Viewing a Model • Selecting Objects in a Model • Viewing Object Properties • Navigate Your Way through a Design	**1- Hour**	**10.00 am – 11.00 am**
	Lesson 3: Clash Detection • Conducting a Clash Test • Clash Detective • Conduct Clash Tests	**1-Hour**	**11.00 am – 12.00 pm**
	Lesson 4: Highlights of Scheduling, Animation, and Rendering • Timeliner • Animations • Presenter • Work within the Fourth Dimension	**1- Hour**	**12.00 pm – 01.00 pm**
Chapter 5: Setting up and Administering a Plant Project	**Lesson 1: Overview of Project Setup** • Opening an Existing Project • Creating a New Project • Default Drawing Templates • Project Folders • Set Up and Structure Your Project	**1-Hour**	**2.00 pm – 03.00 pm**
	Lesson 2: 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	**1-Hour**	**03.00 pm – 04.00 pm**

Chapter	Topic	Duration	Time
	Lesson 3: 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	0.5- Hour	04.00 pm – 04.30 pm
	Lesson 4: 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	0.5- Hour	04.30 pm – 05.00 pm

Training Programme Day 5

Chapter	Topic	Duration	Time
	Lesson 5: 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	1-Hour	09.00 am – 10.00 am
	Lesson 6: 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	1- Hour	10.00 am – 11.00 am
	Lesson 7: Specs and Catalogs • Spec Editor • Process: Editing Parts Catalogs • Configure Specs and Catalogs	1-Hour	11.00 am – 12.00 pm

	Lesson 8: 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	**1- Hour**	**12.00 pm – 01.00 pm**
	Lesson 9: Troubleshooting • Validating Drawings • Auditing Drawings • Quick ISO • ISO Congestion • Exercise: Troubleshooting	**1-Hour**	**02.00 pm – 03.00 pm**
	Lesson 10: 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	**1-Hour**	**03.00 pm – 04.00 pm**
	Lesson 11: 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	**1- Hour**	**04.00 pm – 05.00 pm**