

## SOLIDWORKS Routing: Piping & Tubing

### OVERVIEW

**CLASSROOM LENGTH:** 2 days / **INSTRUCTOR-LED ONLINE LENGTH:** 3 days

**PREREQUISITES:** We recommend completing the SOLIDWORKS Essentials course.

**DESCRIPTION:** The SOLIDWORKS Routing-Piping and Tubing course explains how to create, edit, and manage piping and tubing routes, from the critical routing components and their design requirements to the sub-assemblies that contain the routes.

#### LESSON 1:

##### FUNDAMENTALS OF ROUTING

- What is Routing?
- Routing Setup
- Routing Library Manager
- General Routing Settings

#### LESSON 2:

##### PIPING ROUTES

- Piping Routes
- Pipes and Piping Components
- Routing Assembly Templates
- Creating a Piping Route
- Auto Route
- Route Specification Templates
- Editing a Route
- Routing Along Existing Geometry

#### LESSON 3:

##### PIPING FITTINGS

- Piping Fittings
- Drag and Drop a Fitting
- Creating Custom Fittings

#### LESSON 4:

##### TUBING ROUTES

- Tubing Routes
- Tubes and Tubing Components
- Flexible Tubing with Auto Route
- Orthogonal Tubing Routes with Auto Route
- Bend and Spline Errors
- Starting a Tube Route On the Fly
- Repairing Bend Errors
- Tubing Drawings

#### LESSON 5:

##### PIPING AND TUBING CHANGES

- Piping and Tubing Changes
- Pipe Penetrations
- Flange to Flange Connections
- Pipe Spools
- Adding Slope
- Copying Routes
- Editing Piping Routes
- Editing for Obstructions
- Piping Drawings

#### LESSON 6:

##### CREATING ROUTING COMPONENTS

- Routing Library Parts
- Libraries
- Creating Routing Library Parts
- Routing Library Manager
- Pipe and Tube Components
- Routing Library Manager
- Fitting Components
- Routing Functionality Points
- Routing Geometry
- Part Validity Check
- Design Table Check
- Component Attributes
- Elbow Components
- Valve Components

#### LESSON 7:

##### USING P & ID FILES

- Piping and Instrumentation
- Adding a Pipe
- Pipe with Multiple Lines
- Pipes with In-Line Fittings
- Process Drawings

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## LESSON 8:

### ELECTRICAL DUCTING, CABLE TRAY, AND HVAC ROUTES

- Electrical Ducting, Cable Tray, and HVAC Routes
- Electrical Ducting Routes
- Cable Tray Routes
- HVAC Routes

## LESSON 9:

### PIPING SKIDS

- Piping Skids
- Grid System Feature
- Weldments
- Walk-Through Animations
- Avatar Paths

## LESSON 10:

### USING SOLIDWORKS CONTENT

- Using SOLIDWORKS Content

## LAPPENDIX A: REVIEW SECTION

- Review of Configurations
- A Note About File References
- Design Tables
- Review of Top Down Design
- Editing Options
- Review of Design Library Task Pane
- Review of 3D Sketching