

## MLC CAD Systems SolidWorks Routing 2010

### Atlanta, GA

866-964-2652 Toll Free  
770-963-7056 Fax

### Austin, TX

800-364-1652 Toll Free  
512-288-8512 Fax

### Birmingham, AL

866-461-1652 Toll Free  
866-461-0652 Fax

### Dallas, TX

866-365-1652 Toll Free  
972-550-1653 Fax

### Ft Worth, TX

866-365-1652 Toll Free  
972-550-1653 Fax

### Houston, TX

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713-682-7541 Fax

### Huntsville, AL

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866-461-0652 Fax

### Jackson, MS

866-601-2652 Toll Free  
601-353-0337 Fax

### New Orleans, LA

866-364-2652 Toll Free  
504-525-1651 Fax

### Orlando, FL

866-966-1652 Toll Free  
866-966-1651 Fax

### Stillwater, OK

866-364-4652 Toll Free  
405-742-4653 Fax

**Length:** 2 days

**Prerequisites:** SolidWorks Essentials

**Description:** Routing explains how to create, edit and manage Piping Tubing and Electrical routes, from the critical routing components and their design requirements to the sub-assemblies that contain the routes.

#### Introduction

About This Course  
Use of Color

#### Lesson 1: Fundamentals of Routing

What is Routing?  
Types of Routes  
Routes  
External vs. Virtual Files  
Routing Setup  
Routing File Locations  
General Routing Settings

#### Lesson 2: Basic Electrical Routing

Basic Electrical Routing  
Adding Routing Components  
Start by Drag and Drop Connector  
Auto Route  
Save to External File

#### Lesson 3: Routing with Clips

Routing with Clips  
Routing Through Existing Clips  
Adding Clips while Auto Routing  
Editing a Route  
Working with Clips  
Splitting a Route

#### Lesson 4: Routing Components

Routing Library Parts Introduction  
Routing Component Wizard  
Electrical Libraries

#### Lesson 5: Standard Cables

Using Standard Cables  
Standard Cables Excel File  
Modifying Standard Cables  
Creating a Standard Cable

#### Lesson 6: Electrical Data Import

Importing Data  
Component Library Wizard  
Importing a Cable/Wire Library  
From/To Lists  
Route Properties  
Route Guidelines  
Using Guidelines and Clips

#### Lesson 7: Electrical Drawings

Route Flattening and Detailing  
Annotation Flattening  
Flatten Route  
Highlight Search  
Manufacture Flattening

#### Lesson 8: Electrical Ribbon Cables

Electrical Ribbon Cables  
Ribbon Cable Components  
Auto Routing Ribbon Cables  
Using Ribbon Cable Clips  
Flattening Ribbon Cables  
Through Connectors  
Ribbon Cable Libraries

#### Lesson 9: Electrical Conduits

Electrical Conduits  
Rigid Conduit  
Electrical Data in Conduits  
Start Route and Add to Route  
Flexible Electrical Conduit

#### Lesson 10: Tubing Routes

Tubing Routes  
Tubes and Tubing Components  
Making Tubes  
Flexible Tubing with Auto Route  
Orthogonal Tubing Routes with Auto Route  
Export Pipe/Tube Data  
Starting a Tube Route On the Fly  
Tubing Drawings

#### Lesson 11: Piping Routes

Piping Routes  
Pipes and Piping Components  
Routing Templates  
Routing Component Wizard: Pipe Support  
Creating a Piping Route  
Assemblies in Routing  
Creating Custom Components  
Adding Alternate Elbows

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### Lesson 12: Piping and Tubing Changes

Piping and Tubing Changes  
Dimensioning Options  
Adding Fittings by Drag and Drop  
Change Route Diameter  
Pipe Penetrations  
Flange to Flange Connections  
Copying Routes  
Editing Piping and Tubing Routes  
Piping Drawings

### Lesson 13: Using P&ID Files

Piping and Instrumentation  
Adding a Pipe  
Pipe with Multiple Lines  
Process Drawings

### Lesson 14: Using SolidWorks Content

Using SolidWorks Content  
Creating a Routing Settings File

### Appendix A: Routing Library Parts

Routing Library Parts  
Libraries  
Creating Routing Library Parts  
Pipe and Tube Parts  
Pipe Parts  
Tube Parts  
Elbow Parts  
Routing Functionality Points  
Fitting Parts  
Multi-Body Components  
Equipment  
Assembly Fittings

### Appendix B: 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