SHOUNCO

Northwest SolidWorks Resource Center

# SolidWorks Motion

The goal of this course is to teach you the basics of how to use the SolidWorks Motion simulation software to help you analyze the kinematics or dynamic behavior of your SolidWorks assembly model.

The topics covered in this course are:

## Lesson 1: Introduction to Motion Simulation and Forces

- Basic Motion Analysis
- Forces
- Results

## Lesson 2: Building a Motion Model and Post-processing

- Creating Local Mates
- Mates
- Local Mates
- Power
- Plotting Kinematic Results

## Lesson 3: Introduction to Contacts, Springs and Dampers

- Contact and Friction
- Contact
- Contact Groups
- Contact Friction
- Translational Spring
- Translational Damper
- Post Processing
- Analysis with Friction

## Lesson 4: Advanced Contact

- Contact Forces
- STEP Function
- Contact: Solid Bodies
- Geometrical Description of Contacts
- Instability Points
- Modifying Result Plots
- Precise Contact
- Integrators

## Lesson 5: Curve to Curve Contact

- Contact Forces

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- Curve to Curve contact
- Solid bodies vs. curve to curve contact
- Solid Bodies Contact Solution

### Lesson 6: CAM Synthesis

- CAMs
- Trace Path
- Exporting Trace Path Curves

### Lesson 7: Flexible Joints

- Flexible Joints
- System with Flexible Joints

### Lesson 8: Redundancies

- Redundancies
- How to Check for Redundancies
- Typical Redundant Mechanisms

### Lesson 9: Export to FEA

- Exporting Results
- Export of Loads
- Direct Solution in SolidWorks Motion

### Lesson 10: Event Based Simulation

- Event Based Simulation
- Servo motors
- Sensors
- Task

**Prerequisites:** SolidWorks Essentials

**Length:** 2 Days

**Cost:** $695