



## Mastercam® for SOLIDWORKS®

### Course Description

***This course assumes you have a basic understanding of SOLIDWORKS and solid modeling, as well as a basic understanding of CNC machining and associated terminology.***

In this course, you will learn to program parts directly in SOLIDWORKS, using toolpaths and machining strategies available in Mastercam for SOLIDWORKS. Learn to use SOLIDWORKS to create proper geometry for toolpath control using Mastercam for SOLIDWORKS. Create toolpaths on mechanical parts and assemblies created in SOLIDWORKS or any solid model imported into SOLIDWORKS.

### Module 1: Toolpaths

Learn how various selection methods in Mastercam for SOLIDWORKS can have an effect on the toolpath creation. Learn how to select a machine definition, define a tool plane, and establish toolpath parameters. This module introduces the Toolpath Manager and shows how to create a machine group and toolpath groups. You will learn to use SOLIDWORKS for creating geometry, emphasizing geometric constraints with the intent of controlling the toolpath, and how to program a SOLIDWORKS model with toolpaths used for manufacturing. You will also learn about Feature Based Machining (FBM) and how that can aid in programming parts in Mastercam for SOLIDWORKS.

#### Module Objectives:

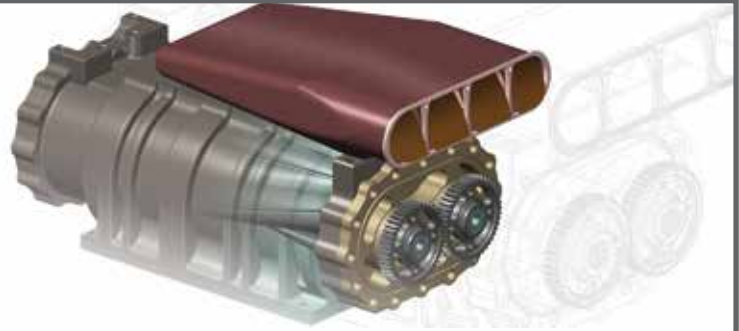
- Starting toolpaths
- Choosing geometry to drive tool motion
- Progression of CAM toolpaths, including Dynamic Motion technology
- Basics for wireframe chaining
- Setting zero position
- Multiple setups for machining
- Tool Manager, loading tools into the Tool Manager
- Toolpaths, including traditional Milling, Facing, Chamfering, FBM Mill and Drill, Threadmill, Contour and 2D HST Area, 2D HST Dynamic and Rest Material
- Drill point management

### Module 2: Applications

This module takes the student through a real life project, from start to finish. Learn toolpath strategies including dynamic toolpaths, profiling, pocketing, facing, area mill, drilling, and slot milling. Create toolpaths on geometry created in SOLIDWORKS. Learn toolpath control to produce efficient CNC code, make geometry modifications, and automatically update toolpaths. This module includes programming a part on multiple sides while using fixtures and work offsets.

#### Module Objectives:

- Programming a part from start to finish
- Overview and FBM
- Complete roughing and finishing of all sides of a part, including positioning the part for different offsets. This includes machining the various sides, machining fillets and chamfers, and drilling.



## Mastercam for SOLIDWORKS

### Multiple Choice Test Overview

There are multiple choice assessments for both the beginning and end of the design and toolpath sections of the course. You will receive a Certificate of Completion (PDF format) upon completion of the posttest, which will display the posttest grade.

### Course Policies

Because this course is available online, it can be taken at any time and at your own pace. At an educational institution, this course would typically require approximately 40 hours. This includes lab time to complete all examples. Plan to spend three hours per session and allow two and a half hours to take the final practical test.

- This course is designed for one student, but allows the lectures to be viewed by others.
- The Certificate of Completion will be stored at Mastercam University under your unique student ID number. It remains available for you to use as proof of work completed and grades received.