Mold Design Using SOLIDWORKS

Length: 2 days
Prerequisites: SOLIDWORKS Advanced Part Modeling
Description: Mold Design Using SOLIDWORKS teaches you several manual mold creation techniques and how to use the Mold Tools in SOLIDWORKS mechanical design automation software.

The topics covered in this course are:

1: Surface Concepts and Import Geometry
   - Importing Data
   - 3D Model Types
   - Definitions
   - Case Study: Solids vs. Surfaces
   - Terminology
   - File Translators
   - Modeling Systems
   - File Translation
   - Why Do Impacts Fail?
   - Diagnosis and Repair
   - Case Study: Repairing and Editing Imported Geometry
   - Checking Solid Bodies
   - Making Copies of Faces
   - Case Study: Import Diagnostics
   - Repairing Gaps
   - Repairing Faces

2: Core and Cavity
   - Core and Cavity Mold Design
   - Case Study: A Simple Two Plate Mold Design
   - SOLIDWORKS Mold Tools
   - Mold Analysis Tools
   - Analyzing Draft on a Model
   - Draft Analysis Colors
   - Scale the Part to Allow for Shrinkage
   - Determine the Parting Lines
   - Manual Selection Of Parting Lines
   - Automation
   - Modeling the Parting Surfaces
   - Smoothing the Parting Surface
   - Surface Bodies
   - Interlocking the Mold Tooling
   - Creating the Mold Tooling

3: Side Cores and EDM Design
   - Multiple Parting Directions
   - Trapped Molding Areas
   - Side Cores
   - Feature Freeze
   - Lifters
   - Core Pins
   - Case Study: Electrode Design
   - Electrode Clearances
   - Keeping the Sharp Edges

4: Advanced Parting Lines, Shut-Off Surfaces, and Cores
   - Parting Lines and Shut-Off Surfaces
   - Case Study: Mixer Base
   - Draft Analysis Options
   - Parting Line Options
   - Core and Cavity Surfaces
   - Shut-Off Surfaces
   - Parting Surface
   - Tooling Split
   - Seeing Inside the Mold
   - Case Study: Splitting a Part

5: Using Surfaces for Model Prep and Interlocks
   - Surfaces in Mold Making
   - Case Study: Plastic Bezel of a Cordless Drill
   - Creating New Drafted Faces
   - Interlock Surfaces

Lesson 6: Using Surfaces for Mold Design Features
   - Surfaces for Mold Design Features
   - Case Study: Router Bottom
   - The Mixer
   - Case Study: Mixer Upper Half
   - Case Study: Mixer Rear Housing
   - Mold Split Folders

7: Alternate Methods for Mold Design
   - Alternate Methods for Mold Design
   - Using Combine and Split
   - Creating a Cavity
   - Case Study: Cavity
   - Using Surfaces
   - Using the Up To Surface Method
   - Using the Split Method
   - Manually Creating Shutoff Surfaces

8: Reusable Data
   - Reusing Data
   - Design Library
   - Task Pane
   - Case Study: 3D ContentCentral
   - Library Features
   - Case Study: Create A Library Feature
   - Configurations in Library Features
   - Case Study: Water Line
   - Smart Components

9: Completing the Mold Base
   - Case Study:Mold Base
   - Organizing the Assembly
   - Modifying the Lifters
   - Ejector Pins
   - Cooling the Mold
   - Making the Drawing
   - Making Changes
   - Completing the Process