SOLIDWORKS MOLD DESIGN

Pre-Requisites: SOLIDWORKS Essentials, SOLIDWORKS Assembly Modeling, SOLIDWORKS Advanced Part Modeling

Daily Schedule: 8:30 a.m. - 4:30 p.m.

Length: 2 Days

This class teaches basic mold-making in SOLIDWORKS. Topics include draft analysis, working with imported parts, parting line generation, parting surfaces, shutoffs, and interlocks.

Introduction

» About This Course

Lesson 1: Core and Cavity

» Core and Cavity Mold Design
» SOLIDWORKS Mold Tools
» Problematic File Translations
» Mold Analysis Tools
» Analyzing Draft on a Model
» Draft Analysis Colors
» Adding Draft
» 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

Lesson 2: Multiple Parting Directions

» Multiple Parting Directions
» Trapped Molding Areas
» Side Cores
» Lifters
» Core Pins
» Case Study: Electrode Design
» Electrode Clearances
» Keeping the Sharp Edges

Lesson 3: Importing and Repairing Geometry

» Beyond the Basics
» Importing Data
» 3D Model Types
» Geometry vs. Topology
» What is a Solid?
» Creating Solids from Surfaces
» Decomposing a Solid into Surfaces
» Surface Types
» Terminology
» File Translators
» Modeling Systems
» File Translation
» Why Do Imports Fail?
» Diagnosis and Repair
» Checking Solid Bodies
» Making Copies of Faces
» Repairing Gaps
» Repairing Faces

Lesson 4: Parting Lines and Shut-Off Surfaces

» Parting Lines and Shut-Off Surfaces
» Draft Analysis Options
» Parting Line
» Core and Cavity Surfaces
» Shut-Off Surfaces
» Parting Surface
» Tooling Split
» Seeing Inside the Mold
» Undercut Analysis
» Cores
» Ejector Pins

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Lesson 5: Repairs and Surfaces

- » Creating New Drafted Faces
- » Interlock Surfaces

Lesson 6: Using Surfaces

- » Surfaces in Mold Making
- » Creating Surface Bodies from Faces
- » Organizing Surfaces
- » Review
- » Manual Shut-off Surface
- » Side Cores
- » Partial Parting Lines

Lesson 7: Reusable Data

- » Reusing Data
- » Library Features
- » Smart Components
- » 3D ContentCentral
- » Design Library
- » Task Pane
- » Library Features
- » Smart Components

Lesson 8: Alternate Methods for Mold Design

- » Alternate Methods for Mold Design
- » Using Combine and Split
- » Creating a Cavity
- » Using Surfaces
- » Using the Up To Surface Method
- » Using the Split Method
- » Manually Creating Shut-off Surfaces

Lesson 9: Making a Complete Mold

- » Developing a Plan
- » Modeling Repairs
- » Mold Split Folders
- » Runners and Gates
- » Side Cores
- » Ejector Pins
- » Core Pins
- » Creating Individual Parts
- » Moldbase
- » Organizing the Assembly
- » Ejector Pins
- » Cooling the Mold
- » Making the Drawing
- » Making Changes
- » Completing the Process

These courses are taught from the official course curriculum from **SOLIDWORKS Corporation**, with additional information from Graphics Systems instructors.