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TRAINING AGENDA

SOLIDWORKS Advanced Part Modeling

OVERVIEW

PREREQUISITES: We recommend completing the SOLIDWORKS Essentials course. Access to SOLIDWORKS 2017 or newer and experience with the Windows® operating system

DESCRIPTION: SOLIDWORKS Advanced Part Modeling builds upon the Essentials lessons to provide instruction on advanced features and capabilities in SOLIDWORKS.

LESSON 1:
MULTIBODY DESIGN TECHNIQUES

- Multibody Parts
- Hide/Show Tree Items
- Case Study: Multibody Design
- Solid Bodies Folder
- Local Operations
- Feature Scope
- Patterning Bodies
- Tool Body Technique
- Combining Bodies
- Case Study: Protective Screen
- Intersect with Solid Bodies
- Case Study: Bowl
- Indent Feature
- Case Study: Indent
- Deleting Solid Bodies
- Exercises 1-7

LESSON 2:
SAVING SOLID BODIES

- Multibody Part vs. Assembly
- Saving Bodies Functions
- Case Study: Clamp
- Insert into New Part
- Save Bodies
- Case Study: Boat Cleat
- Modeling for Rapid Tooling
- Splitting a Part into Multiple Bodies
- Split Feature
- Case Study: Handle
- Automating an Assembly
- Case Study: Using Split Part with Legacy Data
- Exercises 8-10

LESSON 3:
SKETCHING WITH SPLINES

- Curves in Sketches
- Using Sketch Pictures
- Case Study: Guitar Body
- Splines and Spline Relations
- Changing the Shape of a Spline
- Fully Defining Splines
- Evaluating Splines
- Case Study: Two Point Spline
- Analyzing Solid Geometry
- Style Spline and Fit Spline
- Case Study: Torsion Continuity
- Case Study: Watering Can
- Case Study: Coffee Cup
- Exercises 11-15

LESSON 4:
INTRODUCTION TO SWEEPING

- Sweeping
- Case Study: Faux Raised Panel Door
- Sweep with Guide Curves
- Case Study: Bottle Body
- The SelectionManager
- Case Study: Hanger Bracket
- Exercises 16-19

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LESSON 5:
3D SKETCHING AND CURVE FEATURES

- Curve Features
- Case Study: Spring
- Sweeping Along a 3D Path
- 3D Sketching
- Helix Curve and Spiral Feature
- Creating a 3D Curve from Orthogonal Views
- Projected Curve Feature
- Combining Curves and Smoothing Transitions
- Exercises 20-2

LESSON 6:
THREADS AND LIBRARY FEATURE PARTS

- Bottle Features
- Case Study: Modeling Threads
- Saving a Library Feature Part
- Performance Considerations
- Case Study: Adding the Label Outline
- Creating the Sweep Path and Sweeping Edges
- Exercises 24-26

LESSON 7:
ADVANCED SWEEPING

- Sweep Options
- Additional Sweep Settings
- Profile Orientation
- Case Study: Keep Normal Constant
- Intersection Curve Feature
- Visualizing Sweep Sections
- Case Study: Controlling Twist
- Case Study: Controlling Twist and Guide Curves
- Case Study: Align with End Faces
- Solid Profile
- Case Study: Drill Bit
- Exercises 27-31

LESSON 8:
INTRO TO LOFT AND BOUNDARY FEATURES

- Comparing Complex Features
- How Lofting and Boundary Work
- Case Study: Defroster Vent
- Loft Feature
- Boundary Feature
- Case Study: Lofted Merge
- Case Study: Reusing Sketches
- Copying a Sketch and Modify Sketch
- Derived Sketches
- Boundary Preview Options
- Sketch Block and Library Feature Profiles
- Exercise 32-35

LESSON 9:
ADVANCED LOFT AND BOUNDARY FEATURES

- Additional Curves in Loft and Boundary
- Centerline Lofting
- Case Study: Heat Shield
- Loft Preview Options
- Adding Sketch Segments
- Cleaning Up a Model
- Deleting Faces
- Evaluating Edges
- Face Fillets
- Case Study: Hook
- Curve Influence
- Exercises 36-38

LESSON 10:
ADVANCED FILLETING AND OTHER FEATURES

- Fillet Settings
- Fillet Parameters
- Constant Size Fillets
- Delete Face: Delete and Fill
- Fillet Options
- Variable Size Fillets
- Face Fillets
- FilletXpert
- Other Advanced Features
- Wrap Feature
- Deform Feature
- Direct Editing
- Exercises 39-44