

SOLIDWORKS Advanced Part Modeling

Course Outline

 DURATION/TIME 3 Days 9:00 am - 5:00 pm	 METHODOLOGY Practical hands-on with using computers, lecturing, discussions and case studies.
 PREREQUISITES Experience with the Windows™ Operating System. Attended SOLIDWORKS Essentials course	 TARGET Application Engineer, R&D Engineer, Product Designer or Engineer, and Industrial Engineer

INTRODUCTION

Advanced Part Modeling teaches you how to use multibody solids, sweeping and lofting features, and the more advanced shaping capabilities of SOLIDWORKS.

OBJECTIVE

At the end of this program participants are expected to:

- Understand how to create and manage multibody parts.
- Apply advanced features including Sweep, Loft and Boundary.
- Make use of sketch curves to generate freeform shapes.
- Control the advanced options available for creating fillets.

CONTACT

IME CADCAM RESOURCE CENTRE SDN BHD 200301003284 (605704-H)
formerly known as IME CADCAM TRAINING CENTRE SDN. BHD. | A Member of IME Group of Companies - Certified ISO 9001:2015 QMS

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SOLIDWORKS Advanced Part Modeling

DAY 1

Course Outline:

Lesson 1: Multibody Design Techniques

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

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
- Modelling for Rapid Tooling
- Splitting a Part into Multiple Bodies
- Case Study: Handle
- Automating an Assembly
- Case Study: Using Split Part with Legacy Data

Lesson 3: Sketching with Splines

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

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DAY 2

Course Outline:

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

Lesson 5: 3D Sketching and Curve Features

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

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
- Sweeping Along Model Edges

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 with Guide Curves
- Case Study: Align with End Faces
- Solid Profile
- Case Study: Drill Bit

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DAY 3

Course Outline:

Lesson 8: Introduction to Loft and Boundary Features

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

Lesson 9: Advanced Loft and Boundary Features

- Additional Curves in Loft and Boundary
- Centreline 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

Lesson 10: Advanced Filleting and Other Features

- Fillet Settings
- Fillet Parameters
- Constant Size Fillets
- Delete Face: Delete and Fill
- Partial Edge Parameters
- Fillet Options
- Variable Size Fillets
- Face Fillets
- FilletXpert
- Other Advanced Features
- Wrap Features
- Direct Editing

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