SOLIDWORKS Assembly 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

Assembly Modeling teaches you how to maximize your use of the assembly modeling capabilities of SOLIDWORKS mechanical design automation software.

OBJECTIVE

At the end of this program participants are expected to:

- Create assemblies using bottom-up and top-down design approaches
- Control and automate your assemblies with configurations
- Resolve assembly design problems
- Use sketches to layout the design of your assemblies
- Better manage large assemblies and save time

CONTACT

IME CADCAM RESOURCE CENTRE SDN BHD
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SOLIDWORKS Assembly Modeling

DAY 1

Course Outline:

Lesson 1: Advanced Mate Techniques

- SOLIDWORKS Assemblies
- Assembly File Structure
- File References
- File Reference Example
- Solving Mates
- Advanced Mate Techniques
- Case Study: Mate Shortcuts
- Mate References
- Design Library Parts
- Capture Mate References
- Mates with Axes and Planes
- Sharing a Model
- Multiple Selection Mate References
- Multiple Mate Mode
- Driven Mates
- Using Misaligned Mates
- Copying Multiple Components
- Case Study: Copy With Mates
- Fixed Components
- Summary: Inserting and Mating Components
- Advanced Mate Features
- Case Study: Advanced Mate Features
- Profile Center Mate
- Rack Pinion Mate

Lesson 2: Top-Down Assembly Modeling

- Top-Down Assembly Modeling
- Stages in the Process
- Making Changes to Dimensions
- Case Study: Editing and Building In-context
- Adding Features In-context
- Inserting a New Part into an Assembly
- Building In-context Features
- Propagating Changes
- Saving Virtual Parts as External
- External References
- Breaking and Locking External References
- Assembly Design Intent
- SOLIDWORKS File Utilities
- Removing External References

Lesson 3: Assembly Features and Smart Components

- Assembly Features and Smart Fasteners
- Case Study: Assembly Features
- Assembly Features
- Hole Series
- Smart Fasteners
- Smart Components
- Case Study: Smart Component
- Flexible Components

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SOLIDWORKS Assembly Modeling

DAY 2

Course Outline:

Lesson 4: Assembly Editing

- Assembly Editing
- Key Topics
- Case Study: Assembly Editing
- Mate Errors
- Replacing and Modifying Components
- Converting Parts and Assemblies
- Replacing Components Using Save As
- Reloading Components
- Component Patterns

Lesson 5: Using Configurations with Assemblies

- Using Configurations with Assemblies
- Case Study: Assembly Configurations
- Creating Configurations Manually
- Configuration Properties
- Using the Modify Configurations Dialog
- Changing Configurations using the Context Toolbar
- Managing the Tree Display
- Assembly Evaluation Tools
- Case Study: Hole Alignment
- Controlling Dimensions in an Assembly
- Creating an Equality
- Equations With Functions
- Comments
- Sensors
- Using the Mate Controller

Lesson 6: Display States and Appearances

- Display States
- Bulk Selection Tools
- Case Study: Display States
- Advanced Select
- Envelopes
- Appearances, Materials and Scenes
- Case Study: Appearance and Materials

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SOLIDWORKS Assembly Modeling

DAY 3

Course Outline:

Lesson 7: Large Assemblies

- Large Assemblies
- Key Topics
- Assembly Loading
- Assembly Modes
- Assembly Visualization
- Lightweight Components
- Large Assembly Settings
- Case Study: Large Assembly Options
- Using SpeedPak
- Using Simplified Configurations
- Automatic Assembly Loading
- Defeature
- Modifying the Structure of an Assembly
- Envelope Publisher

Lesson 8: Large Design Review

- Large Design Review
- Key Topics
- Comparison of Loading, Modes, and Methods
- Tips for faster Assemblies
- Drawing Considerations

Lesson 9: Facility Layout

- Facility Layout
- Publishing an Asset
- Using Magnetic Mates
- Modeling Connection Point Geometry

Quiz and Assessment

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