



## SolidWorks Assembly Modeling

### Pre-Requisites:

- SolidWorks Essentials

**Daily Schedule:** Begin at 8:30 a.m., End at 4:30 p.m., 1 hour lunch

**Length:** 2 Days

**Description:** This is the course to take to learn production assembly modeling in SolidWorks. Learn how to troubleshoot assemblies and make your assemblies as efficient as possible. See how SmartMates and assembly configurations can make your life easier as you work with your production assemblies. Advanced techniques like top-down modeling, in-context features, and assembly structure editing are explained in detail as you learn how to make some of the most powerful SolidWorks features work for you.

This course is taught from the official course curriculum from SolidWorks Corporation, with additional information from Graphics Systems instructors.

### Introduction

- About This Course
- Use of Color

### Lesson 1: Top-Down Assembly Modeling

- Top-Down Assembly Modeling
- Stages in the Process
- Building Virtual Parts
- Building Parts in an Assembly
- Assembly Features
- In-Context Features
- Propagating Changes
- Smart Fasteners
- Saving Internal Parts as External
- External References
- Breaking External References
- Removing External References

### Lesson 2: Advanced Mate Techniques

- Advanced Mates
- Adding Mate References
- Design Library Parts
- Capture Mate References
- Configuration Publisher

### Lesson 2: Advanced Mate Techniques (Continued)

- Smart Components
- Advanced and Mechanical Mate Types
- Summary: Inserting and Mating Components
- Multiple Mate Mode
- Using Copy with Mates
- Mate Options

### Lesson 3: Using Configurations with Assemblies

- Using Configurations with Assemblies
- Stages in the Process
- Component Patterns
- Using Configure Component
- Creating Configurations Manually
- Using Design Tables with Assemblies
- Understanding Design Tables
- Manipulating the Design Table

### Lesson 4: Display States and Appearances

- Display States
- Bulk Selection Tools
- Advanced Select
- Envelopes
- Appearances, Materials and Scenes

### Lesson 5: Assembly Editing

- Assembly Editing
- Key Topics
- Editing Activities
- Replacing and Modifying Components
- Troubleshooting an Assembly
- Replacing Components Using Save As
- Mirroring Components
- Hole Alignment
- Controlling Dimensions in an Assembly
- Sensors

### Lesson 6: Layout-based Assembly Design

- Layout-based Assembly Design
- Key Topics
- Blocks
- Inserting Blocks
- Testing with the MotionManager
- Creating a Part from a Block





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## SolidWorks Assembly Modeling

### **Lesson 7: Large Assemblies**

- Large Assemblies
- Key Topics
- Lightweight Components
- Large Assembly Mode
- Selective Open with Hide
- Using Quick View / Selective Open
- Using SpeedPak
- Using Configurations with Large Assemblies
- Modifying the Structure of an Assembly
- Assembly Visualization
- Tips for Faster Assemblies
- Drawing Considerations
- SolidWorks Explorer
- Renaming Components

### **Lesson 8: The MotionManager**

- MotionManager
- Using the Animation Wizard
- Free Motion
- Drag Motion
- Motors and Motion
- Visual Properties
- Interpolation Modes
- View Orientation States
- Basic Motion
- Using Physical Dynamics



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