SOLIDWORKS Advanced is a four-day training class that builds upon the Essentials lessons to provide instruction on advanced features and capabilities in SOLIDWORKS. Advanced Part Modeling teaches you how to use multi-body solids, sweeping and lofting features, and the more advanced shaping capabilities of SOLIDWORKS. Assembly Modeling teaches how to maximize your use of the assembly modeling capabilities of SOLIDWORKS.

The SOLIDWORKS Advanced training consists of the following lessons:

<table>
<thead>
<tr>
<th>Lesson 1: Multibody Design Techniques</th>
<th>Lesson 2: Saving Solid Bodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multibody Parts</td>
<td>Multibody Part vs. Assembly</td>
</tr>
<tr>
<td>Hide/Show Tree Items</td>
<td>Saving Bodies Functions</td>
</tr>
<tr>
<td>Case Study: Multibody Design</td>
<td>Case Study: Clamp</td>
</tr>
<tr>
<td>Solid Bodies Folder</td>
<td>Insert into New Part</td>
</tr>
<tr>
<td>Local Operations</td>
<td>Save Bodies</td>
</tr>
<tr>
<td>Feature Scope</td>
<td>Case Study: Boat Cleat</td>
</tr>
<tr>
<td>Patterning Bodies</td>
<td>Modeling for Rapid Tooling</td>
</tr>
<tr>
<td>Tool Body Technique</td>
<td>Splitting a Part into Multiple Bodies</td>
</tr>
<tr>
<td>Combining Bodies</td>
<td>Split Feature</td>
</tr>
<tr>
<td>Case Study: Protective Screen</td>
<td>Case Study: Handle</td>
</tr>
<tr>
<td>Intersect with Solid Bodies</td>
<td>Automating an Assembly</td>
</tr>
<tr>
<td>Case Study: Bowl</td>
<td>Case Study: Using Split Part with Legacy Data</td>
</tr>
<tr>
<td>Indent Feature</td>
<td>Exercises 8-10</td>
</tr>
<tr>
<td>Case Study: Indent</td>
<td>Exercises 1-7</td>
</tr>
<tr>
<td>Deleting Solid Bodies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lesson 3: Sketching with Splines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curves in Sketches</td>
</tr>
<tr>
<td>Using Sketch Pictures</td>
</tr>
<tr>
<td>Case Study: Guitar Body</td>
</tr>
<tr>
<td>Splines and Spline Relations</td>
</tr>
<tr>
<td>Changing the Shape of a Spline</td>
</tr>
<tr>
<td>Fully Defining Splines</td>
</tr>
<tr>
<td>Evaluating Splines</td>
</tr>
<tr>
<td>Case Study: Two Point Spline</td>
</tr>
<tr>
<td>Analyzing Solid Geometry</td>
</tr>
<tr>
<td>Style Spline and Fit Spline</td>
</tr>
<tr>
<td>Case Study: Watering Can</td>
</tr>
<tr>
<td>Case Study: Coffee Cup</td>
</tr>
<tr>
<td>Exercises 11-15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lesson 4: Introduction to Sweeping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweeping</td>
</tr>
<tr>
<td>Case Study: Faux Raised Panel Door</td>
</tr>
<tr>
<td>Sweep with Guide Curves</td>
</tr>
<tr>
<td>Case Study: Bottle Body</td>
</tr>
<tr>
<td>The SelectionManager</td>
</tr>
<tr>
<td>Case Study: Hanger Bracket</td>
</tr>
<tr>
<td>Exercises 17-19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lesson 5: 3D Sketching and Curve Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curve Features</td>
</tr>
<tr>
<td>Case Study: Spring</td>
</tr>
<tr>
<td>Sweeping Along a 3D Path</td>
</tr>
<tr>
<td>3D Sketching</td>
</tr>
<tr>
<td>Helix Curve and Spiral Feature</td>
</tr>
<tr>
<td>Creating a 3D Curve from Orthogonal Views</td>
</tr>
<tr>
<td>Projected Curve Feature</td>
</tr>
<tr>
<td>Combining Curves and Smoothing Transitions</td>
</tr>
<tr>
<td>Exercises 20-23</td>
</tr>
</tbody>
</table>
### 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 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

### Lesson 11: Advanced Mate Techniques
- SOLIDWORKS Assemblies
- Assembly File Structure
- File References and Example
- Solving Mates
- Advanced Mate Techniques and Shortcuts
- Case Study: Mate Shortcuts
- Mate References and Design Library Parts
- Capture Mate References
- Multiple Selection Mate References and Mode
- Driven Mates and Using Misaligned Mates
- Copying Multiple Components
- Case Study: Copy with Mates
- Using Copy with Mates
- Fixed Components
- Summary: Inserting and Mating Components
- Advanced Mate Features
- Case Study: Advanced Mate Features
- Profile Center Mate
- Exercises 1-5

### Lesson 12: Top-Down Assembly Modeling
- Top-Down Assembly Modeling
- 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
- Machine Vise Design Intent
- Removing External References
- Exercises 6-8
### Lesson 13: Smart Technology
- Assembly Features and Smart Fasteners
- Case Study: Assembly Features
- Smart Fasteners
- Smart Components
- Case Study: Smart Component
- Exercises 9-12

### Lesson 14: Assembly Editing
- Assembly Editing
  - Key Topics
  - Case Study: Assembly Editing
  - Replacing and Modifying Components
  - Troubleshooting an Assembly
  - Replacing and Reloading Components
  - Component Patterns
  - Exercises 13-17

### Lesson 15: Using Configurations with Assemblies
- Using Configurations with Assemblies
  - Case Study: Assembly Configurations
  - Creating Configurations and Properties
  - Using the Modify Configurations Dialog
  - Context Toolbar and Changing Configurations
  - Managing the Tree Display
  - Assembly Evaluation Tools
  - Case Study: Hole Alignment
  - Controlling Dimensions in an Assembly
  - Creating an Equality
  - Equations With Functions
  - Sensors and Using the Mate Controller
  - Exercises 18-20

### Lesson 16: Display States and Appearances
- Display States and Bulk Selection Tools
  - Case Study: Display States
  - Advanced Select
  - Using Envelopes
  - Appearances, Materials and Scenes
  - Case Study: Appearances and Materials
  - Exercises 21-22

### Lesson 17: Large Assemblies
- Large Assemblies Key Topics
  - Lightweight Components
  - Large Assembly Mode
  - Case Study: Large Assembly Options
  - Using SpeedPak
  - Using Configurations with Large Assemblies
  - Defeature
  - Modifying the Structure of an Assembly
  - Assembly Visualization
  - Large Design Review
  - Tips for Faster Assemblies
  - Drawing Considerations
  - Exercise 23-26

### Lesson 18: Facility Layout
- Facility Layout and Publishing an Asset
  - Using Magnetic Mates
  - Modeling Connection Point Geometry
  - Exercise 27

### Lesson 19: Using SOLIDWORKS Treehouse
- SOLIDWORKS Treehouse
  - Exporting Treehouse Data
  - Exercise 28

### Format
Classes are scheduled at a GoEngineer training facility and taught by certified SOLIDWORKS instructors. Training manuals will be provided to you on the first day of class. This training may also be taught as a custom class at your location for an additional cost.

### Prerequisites
SOLIDWORKS Essentials