



**Shounco Design Studios**  
Your Complete Engineering Resource Center

## **SolidWorks Simulation**

The goal of this course is to teach you how to use the SolidWorks Simulation software to help you analyze static structural behavior of your SolidWorks part and assembly models.

The topics covered in this course are:

### **Lesson 1: The Analysis Process**

- The Analysis Process
- Project Description
- SolidWorks Simulation Options
- Preprocessing
- Meshing
- Postprocessing
- Multiple Studies
- Reports

### **Lesson 2: Mesh Controls, Stress Concentrations and Boundary Conditions**

- Mesh Control
- Understanding the Effects of Boundary Conditions

### **Lesson 3: Assembly Analysis with Contacts**

- Contact and Gap Analysis
- Pliers with Local Contact

### **Lesson 4: Symmetrical and Free Self-Equilibrated Assemblies**

- Shrink Fit Parts
- Analysis with Soft Springs

### **Lesson 5: Assembly Analysis with Connectors**

- Connecting Components
- Connectors

### **Lesson 6: Compatible/Incompatible Meshes**

- Compatible/Incompatible Meshing: Bonded Contact
- No Penetration contact

### **Lesson 7: Assembly Analysis Mesh Refinement**

- Mesh Control in an Assembly
- Problem Statement
- Part 1: Draft Quality Coarse Mesh Analysis
- Part 2: High Quality Mesh Analysis

### **Lesson 8: Analysis of Thin Components**

- Thin Components
- Part 1: Mesh with Solid Elements
- Part 2: Refined Solid Mesh
- Solid vs. Shell
- Creating Shell elements
- Part 3: Shell Elements- Mid-plane Surface



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**Lesson 9: Mixed Meshing Shells & Solids**

**Lesson 11: Design Scenarios**

- Design Scenarios
- Part 1: Multiple Load Cases
- Part 2: Geometry Modification

**Lesson 13: Adaptive Meshing**

- Adaptive Meshing
- h-Adaptive Study
- p-Adaptive Study
- h vs. p Elements

- Mixed Meshing Shells & Solids

**Lesson 10: Mixed Meshing Solids, Beams and Shells**

- Mixed Meshing

**Lesson 12: Thermal Stress Analysis**

- Thermal Stress Analysis
- Examining Results in Local Coordinate Systems
- Saving Model in its Deformed Shape

**Lesson 14: Large Displacement Analysis**

- Small vs. Large Displacement Analysis
- Part 1: Small Displacement Linear Analysis
- Part 2: Large Displacement Nonlinear Analysis

Prerequisites: Mechanical design experience, experience with a windows operating system

Length: 2 Days

Cost: \$995