SolidWorks Simulation & Simulation Professional Training

Length: 4 days

Description: This course is designed to make SolidWorks users productive more quickly with the SolidWorks Simulation Professional analysis package. The 4-day training class provides an in-depth coverage on the basics of Finite Element Analysis (FEA), covering the entire process from meshing to evaluation of results for parts and assemblies. It discusses linear stress analysis covering the entire analysis process from meshing to evaluation of results for parts and assemblies, gap/contact analysis, and best practices. 4th day covers heat transfer analysis, frequency analysis, fatigue, stability analysis based on linear buckling concepts, 2D simulations (plane stress, strain and axisymmetry) and pressure vessel modulus. Examples of parts and assemblies including those with various gap/contact conditions are reviewed.

Prerequisites: Knowledge of SolidWorks and basic mechanical engineering concepts is recommended.

Who Should Attend: All SolidWorks Simulation users wishing to create better designs in SolidWorks by performing analysis and evaluating the behavior of their parts and assemblies under actual service conditions.

Length: 4 Days

Time: 9:00 am to 5:00 pm.

Topics Covered:

Introduction to FEA

- Key concepts and principles
- FEA and CAD modeling approaches
- Boundary Conditions
- Loads
- Elements
- Linear vs non-linear analysis
FEA using SolidWorks Simulation

- Preprocessing
- Analysis setup, Results visualization and post-processing
- Meshing options
- Mixed Meshing options
- Adaptive Meshing
- Loads and Restraints
- Small vs. Large displacement
- Linear static analysis of parts
- Gaps/Contact and Advanced Assembly Analysis
- Assemblies with special connectors and bolts
- Frequency Analysis
- Effect of In-plane loading on thin-walled structures
- Linear Buckling Analysis
- Heat Transfer: Conduction, Convection and Radiation
- Thermal Stress Analysis with contacts
- Drop Test
- Optimization
- Fatigue analysis (S-N curves, single/multiple invent formulations)
- 2D Simulations (plane stress, plane strain and axisymmetry)
- Pressure vessel modulus