



## SolidWorks Simulation Professional

Prerequisites	Length	Description
Completion of SolidWorks Simulation Basic or equivalent working knowledge of SolidWorks Simulation software. Knowledge of SolidWorks and basic mechanical engineering concepts is recommended.	2 Days	This day course will provide an in-depth coverage on the advanced topics in Finite Element Analysis (FEA) including heat transfer analysis, frequency analysis, fatigue, stability analysis based on the linear buckling concepts, 2D simulations (plane stress, strain and axisymmetry) and pressure vessel modulus.

### Frequency Analysis of Parts

- Modal Analysis Basics
- Case Study: The Tuning Fork
- Frequency Analysis with/without Supports
- Frequency Analysis with Load

### Frequency Analysis of Assemblies

- All Bonded Contact Conditions
- Bonded & Free Contact Conditions

### Buckling Analysis

- Case Study: Particle Separator

### Thermal Analysis

- Case Study: Microchip Assembly
- Steady-State, Transient Thermal Analysis
- Transient Analysis with Time Varying Load
- Transient Thermal Analysis Using a Thermostat

### Thermal Analysis with Radiation

- Case Study: Spot Light Assembly
- Steady State Analysis
- Full Radiation Conditions

### Advanced Thermal Stress, 2D Simplification

- 2D Simulations – Plane Stress, Plane Strain, Axisymmetry
- Thermal Expansion Joint

### Fatigue Analysis

- Fatigue
- Stress-life (S-N) Based Fatigue
- Case Study: Pressure Vessel
- Thermal Stress Study
- Fatigue Terminology
- Fatigue Study
- Fatigue Study with Dead Load

### Advanced Fatigue Analysis

- Case Study: Suspension
- Fatigue Study
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### Drop Test Analysis

- Drop Test Analysis
- Case Study: Camera
- Rigid, Elastic Floor Drop Test
- Elasto-Plastic Material Model
- Drop Test with Contact

### Optimization Analysis

- Case Study: Press Frame
- Static & Frequency Analyses
- Design Study

### Pressure Vessel Analysis

- Pressure Vessel Analysis
- Manhole Nozzle Flange & Cover

### Did You Know?

- CAD MicroSolutions keeps class sizes small (8 or less) to ensure that each student receives personal attention.
- A professionally catered lunch is provided each day.
- Our instructors have the highest level of certifications attainable.
- Our professional training facility is outfitted with optimized Dell and Boxx Workstations with 3DConnexion 3D Controllers.
- All attendees that successfully complete the course receive an official course certificate from *Dassault Systemes SolidWorks Corporation* recognizing their achievement.

*The CAD MicroSolutions Difference:  
Certified Training That Delivers Peak Performance*

