cadmicro **SOLIDWORKS TRAINING**

SOLIDWORKS SIMULATION: DYNAMICS

PREREQUISITES	LENGTH	DESCRIPTION
▪ SolidWorks Simulation Essentials required or must have an experience with SOLIDWORKS. Basic knowledge of finite elements, basic mechanical principles, and basic principles in Vibrations recommended.	2 Days	▪ This course is designed for users who would like to become productive fast, the nonlinear course offers hands-on experience on the use of SOLIDWORKS Simulation dynamics modules. The two-day course provides an overview on a wide range of dynamic analysis topics.

▶ VIBRATION OF A PIPE

- Static Analysis
- Frequency Analysis
- Dynamic Analysis (Slow Force)
- Dynamic Analysis (Fast Force)
- Exercise I: Vibration of Cantilever Beam
- Exercise 2: Shock Load of PCB Board

▶ TRANSIENT SHOCK ANALYSIS

- Mass Participation Factor
- Cumulative Mass Participation Factor
- Viscous Damping
- Model with Remote Mass
- Exercise 3: Transient Analysis of Alternator Bracket

▶ HARMONIC ANALYSIS OF A BRACKET

- Project Description
- Harmonic Analysis Basics
- Single DOF Oscillator
- Harmonic Analysis of a Bracket
- Harmonic Study Properties
- Exercise 4: Harmonic Analysis of Alternator Bracket

▶ RESPONSE SPECTRUM ANALYSIS

- Response Spectrum Analysis
- Response Spectrum Analysis Procedure
- Response Spectrum Input
- Mode Combination Method

▶ RANDOM VIBRATION ANALYSIS

- Distributed Mass
- Power Spectral Density Function
- Isotropic Hardening
- Random Study Properties
- Exercise 5: Random Vibration Analysis of an Electronics Enclosure
- Exercise 6: Circuit Board Fatigue Estimates
- Exercise 7: Random Vibration Analysis of a Starter Motor

▶ RANDOM VIBRATION FATIGUE

- Random Vibration Fatigue
- Material Properties, S-N Curve
- Random Vibration Fatigue Options
- Exercise 8: Random Vibration Fatigue of a Cantilever Beam

▶ NONLINEAR DYNAMIC ANALYSIS OF AN ELECTRONIC ENCLOSURE

- Linear Dynamic Analysis
- Nonlinear Dynamic Analysis
- Linear vs. Nonlinear Dynamic Analysis
- Rayleigh Damping
- Time Integration Methods