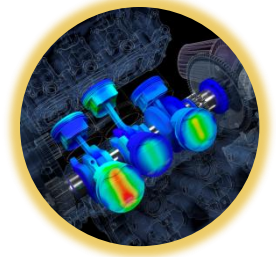


# Autodesk® Simulation Mechanical



## Part I Course Overview

### Duration:

3 days

### Who Should Attend?

New users of Autodesk Simulation Mechanical or Multiphysics.

Prior FEA experience is not necessary.

### What will you learn?

- How to setup static stress, heat transfer and modal analyses
- Which loading and boundary conditions apply to different real world situations
- How to determine the reliability of your simulation results

To register for upcoming classes Email:

[NA.MFG.simulation.training@autodesk.com](mailto:NA.MFG.simulation.training@autodesk.com)

Phone: +1.412.967.2779

### Course Description

This course will introduce you to the static stress, heat transfer, and linear dynamics analyses capabilities available within Autodesk® Simulation Mechanical and Multiphysics. You will learn about meshing, loads, and constraints for each of the covered analysis types. Most importantly, you will learn how to evaluate the results. You will also learn how to create custom presentations and reports of the results. This course is a prerequisite to Autodesk Simulation Mechanical Part II, where large scale motion, large deformation, large strain with contact, and non-linear material models are covered.

### Course Outline - Autodesk Simulation Mechanical Part I

#### Background of FEA

- Stress and Strain Review
- Heat Transfer Review
- Linear Dynamics Review

#### Static Stress Analysis

- Element Types
- Generating Meshes
- Modeling and Meshing Tips
- Loading Options
- Constraint Options
- Material Options

#### Results Evaluation and Presentation

- How Results are Calculated
- How to Evaluate Results
- Presentation Options

#### Advanced Meshing

- Midplane Meshing
- Mesh Refinement
- Creating Joints and Bolts
- Mesh Convergence Testing

#### Contact

- Uses for Contact
- Contact Options

#### Linear Dynamics

- Modal Analysis
- Load Stiffening
- Critical Buckling

#### Heat Transfer

- Transient vs. Steady-State
- Mesh Options
- Element Types
- Loading Options
- Results Evaluation

#### Thermal Stress

- Setup
- Results Evaluation

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