

Autodesk Inventor Professional Simulation

Description

Learn the fundamental principles and recommended workflows for analyzing designs and creating dynamic simulations of mechanisms using Autodesk® Inventor® Professional. Users learn how to validate digital prototypes by simulating the operation of mechanisms and motorized assemblies. They also learn how to analyze parts and assemblies, perform parametric design studies, and use modal analysis. Hands-on exercises representing real-world, industry-specific design scenarios are included.

Pages	272
Onscreen Exercises	Yes
Prerequisites	Users should have completed a <i>Learning Autodesk Inventor</i> course and have a working knowledge of the following: <ul style="list-style-type: none">• Complex assembly design using Autodesk Inventor.• Mechanical engineering or engineering analysis principles.• Microsoft® Windows® Vista or Microsoft® Windows® XP.

Class Information

Suggested Duration	2 days
Objective	To introduce users to the user interface, tools, and recommended workflows in the Autodesk Inventor Professional Dynamic Simulation and Stress Analysis environments. After completing this class, users will be able to: <ul style="list-style-type: none">• Validate digital prototypes by creating dynamic simulations of mechanisms using joints and environmental constraints.• Eliminate redundancies in a design.• Interpret Dynamic Simulation results.• Analyze parts and assemblies and perform parametric design studies.• Practice solving real-world design problems.
Who Should Attend	Experienced Autodesk Inventor users.

In this Guide

Introduction to Engineering Analysis

- Stress Analysis Overview
- Dynamic Simulation Overview

Stress Analysis

- Preparing and Running a Simulation
- Viewing Results
- Analyzing Assemblies
- Performing a Parametric Design Study
- Mesh Control and Convergence
- Performing a Modal Analysis

Dynamic Simulation

- Creating Joints
- Defining Loads and Joint Properties
- Running Simulations and Analyzing Results
- Building Nonredundant Models
- Sharing Dynamic Simulation Results with Stress Analysis

Engineering Problems and Solutions

- Solving Design Problems

Note: The suggested class duration is a guideline. Topics and duration may be modified by the instructor based upon the knowledge and skill level of the class participants.

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