



AUTODESK SIMULATION TRAINING

Simulation Courses

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Autodesk Moldflow Adviser Fundamentals

2 Days

COURSE DESCRIPTION

This course teaches new users the key features, functionalities and workflows in Autodesk Moldflow Adviser. Through hands-on exercises, you will learn how to run analysis in the Standard, Premium and Ultimate packages as well as learning how to interpret results of all analysis types available.

COURSE MODULES

- Introduction to using the Interface and Job Manager
- Customise Databases
- The Process Typically used for Analysis Projects
- Import and Check Models from CAD Systems
- Check Models for Draft, Thickness and Undercuts
- Gate Placement Guidelines
- Gate Location Analysis
- Review Part Design Guidelines
- Analysis Sequences
- Results Visualisation Tools
- Cost Adviser Tool
- Review Available Formats
- How to Model Typical Gate and Runner Designs
- Review Concepts of Pack/Hold for Injection Moulds
- Model Cooling Circuits
- Concepts of Cooling for Injection Moulds

OTHER INFORMATION

Prerequisites

This course is ideal for the new Autodesk Moldflow Adviser user.

Course Duration

2 Days

Next Steps

A bespoke course



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Autodesk Moldflow Insight Fundamentals

4 Days

COURSE DESCRIPTION

This course teaches new users the key features, functionalities and workflows in Autodesk Moldflow Insight Standard. Through hands-on exercises, you will be taught how to run and interpret results of most analysis types within the software.

COURSE MODULES

- Introduction to Synergy User Interface
- General Process used for Analysis Projects
- Moldflow Design Philosophy and Design Procedures
- Mesh Characteristics
- Mesh Errors and Mesh Density Requirements
- Result Manipulation and Interpretation
- Typical Gate and Runner Designs
- Conduct a Runner Balance Analysis
- Review of Definitions
- Advanced Options for a Flow Analysis
- Solvers and Capabilities
- Features and Capability of Moldflow Communicator
- How to Create MRF and Criteria Files in Synergy
- Gate Placement Guidelines
- Gate Location Analysis
- Polymer Definitions and Classification

OTHER INFORMATION

Prerequisites

This course is ideal for the new Autodesk Moldflow Insight user.

Course Duration

4 Days

Next Steps

A bespoke course



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Introduction to Autodesk Inventor Nastran

2 Days

COURSE DESCRIPTION

Autodesk Inventor Nastran is a powerful Finite Element Analysis (FEA) package built into Inventor. This course teaches the capabilities of Nastran including complex stress, impact, fatigue, vibrations and thermal analysis.

COURSE MODULES

- Introduction to Finite Element Analysis
- Idealisations
- Contacts
- Constraints
- Leads
- Meshes
- Reviewing Results
- Sections
- Animations

STUDY TYPES

- Linear and Nonlinear Static Analysis
- Normal Modes Analysis
- Linear and Nonlinear Buckling Analysis
- Prestress Static Analysis
- Prestress Normal Modes
- Direct and Modal Transient Response
- Impact Analysis
- Nonlinear Transient Response
- Direct, Modal and Random Frequency Response
- Shock/Response Spectrum

OTHER INFORMATION

Prerequisites

Prior knowledge of Inventor Solid Modelling is required. FEA experience is beneficial.

Course Duration

2 Days

Next Steps

A bespoke course



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Autodesk Inventor Dynamic Simulation **2 Days**

COURSE DESCRIPTION

This course covers the basic and advanced functionality of dynamic simulation within the Inventor modelling application, allowing you to acquire the knowledge needed to complete a thorough evaluation of product performance. The course focuses on solving actual design problems. These problems come from existing Inventor Dynamic Simulation users, and are universal, allowing you to apply the knowledge quickly to your own design problems with confidence.

COURSE MODULES

- Simulation Workflow
- Dynamic Simulation Environment and UI
- Simulation Joints and Degrees of Freedom
- Process of Creating Joints
- Simulation and Analysing
- Environmental Constraints
- Analysing and Interpreting Results
- Solving Design Problems using Various Tools
- Examples Include:
 - Simulation of Racing Car Piston Assembly
 - Agricultural Spring Mechanism Design
 - Rotary Compressor Design
 - Simulating a Sprocket Chain

OTHER INFORMATION

Prerequisites

A good working knowledge of Autodesk Inventor.

Course Duration

2 Days

Next Steps

A bespoke course



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Autodesk Inventor Stress and Frame Analysis

2 Days

COURSE DESCRIPTION

You will learn how to drive the simulation capabilities of Autodesk Inventor Professional to perform FEA stress and frame analysis on models and digital prototypes. This will enable you to validate designs, eliminate redundancies and solve real-world problems before a physical prototype is produced.

COURSE MODULES

- Simulation Overview
- The Stress Analysis Environment
- Introduction to Static Analysis
- Introduction to Model Analysis
- Introduction to Frame Analysis
- Stress Analysis Workflows in Inventor Professional
- User Interface
- Simulation Preparation
- Simulation Pre-Solve
- Meshing
- Mesh Refinement
- Convergence
- Simulation Solving
- Displaying Results
- Viewing Different Results
- Animating
- Probing
- Convergence Plotting
- Exporting Reports

OTHER INFORMATION

Prerequisites

This course assumes knowledge of Inventor basics.

Course Duration

2 Days

Next Steps

Inventor Dynamic Simulation





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