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AUTODESK
Authorized Training Center

AUTODESK INVENTOR TRAINING

Inventor Courses

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Autodesk Inventor Introduction to Solid Modelling 4 Days

COURSE DESCRIPTION

This course teaches new Inventor users how to approach parametric design using Autodesk Inventor. The course provides a hands-on learning experience to help you acquire the knowledge needed to design models from conceptual sketching through to solid modelling, assembly design and drawing production.

COURSE MODULES

- Creating, Constraining and Dimensioning 2D Sketches
- Creating and Editing the Solid Base of 3D Features from a Sketch
- Creating and Editing Secondary Solid Features
- Creating Equations and Working with Parameters
- Manipulating the Display of the Model
- Resolving Feature Failures
- Duplicating Geometry in the Model
- Placing and Constraining/Connecting Assembly Parts
- Manipulating Display of Components in an Assembly
- Obtaining Model Measurements
- Obtaining Property Information
- Creating Presentations (Exploded Views)
- Modifying and Analysing Components in an Assembly
- Simulating Motion in an Assembly
- Creating Parts and Features in an Assembly
- Creating and Editing an Assembly
- Bill of Materials
- Working with Projects
- Creating and Annotating Drawings and Views
- Customising the Autodesk Inventor Environment

OTHER INFORMATION

Prerequisites

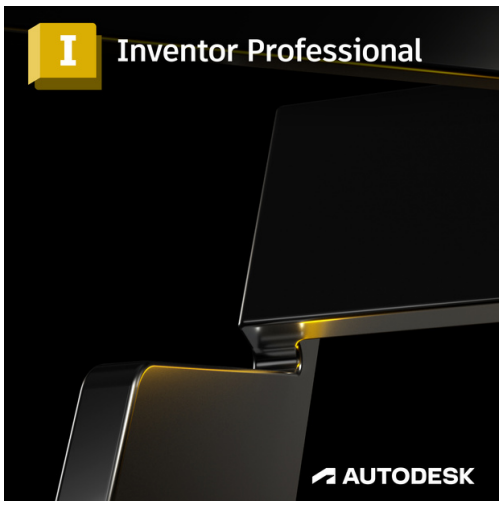
A background in drafting of 3D parts is recommended.

Course Duration

4 Days (Split into 2 + 2)

Next Steps

Autodesk Inventor Sheet Metal Design



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

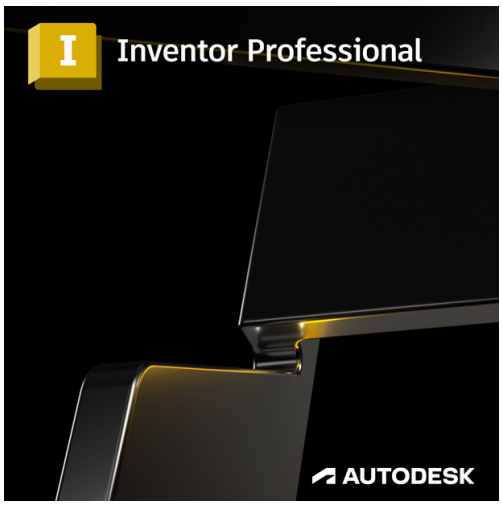
This course assumes knowledge of Inventor Basics.

Course Duration

2 Days

Next Steps

Inventor Dynamic Simulation



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Autodesk Inventor Advanced Part Modelling

2 Days

COURSE DESCRIPTION

This course builds on the skills acquired in the Autodesk Inventor Introduction to Solid Modelling training. It takes you to a higher level of productivity when designing part models in Inventor. You will learn advanced part modelling techniques including multi-body design, advanced lofts, advanced sweeps, coils and surface modelling. The course also covers features aimed at increasing efficiency; iFeatures for frequently needed design elements, iParts for similar designs, iLogic for automating designs, translation options for importing data and the Engineer's Notebook for communication.

COURSE MODULES

- Advanced Model Appearance Options
- 2D and 3D Sketching Techniques
- Multi-Body Part Modelling
- Advanced Geometry Creation Tools
- Analysis Tools
- Generative Shape Design Using Shape Generator
- Creating and Editing Basic Surfaces
- Importing Surfaces
- Surface Repair Tools
- iFeatures and iParts
- Importing Data from other CAD Systems and Making Edits
- Working with Autodesk DWG Files
- Freeform Modelling
- Emboss and Decal Features
- Advanced Drawing Tools

OTHER INFORMATION

Prerequisites

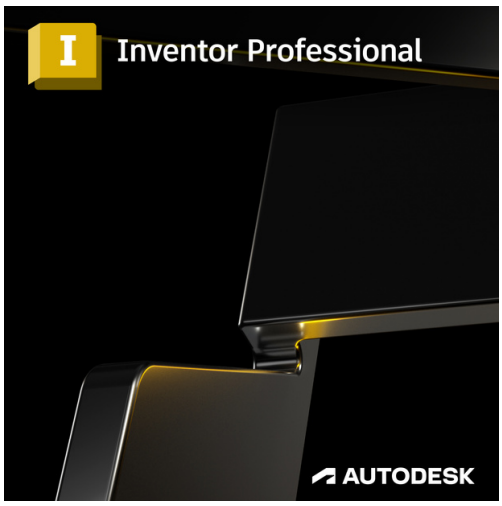
This course assumes a mastery of Inventor Basics and knowledge of how to create and edit parts.

Course Duration

2 Days

Next Steps

Autodesk Inventor Advanced Assembly Modelling



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Autodesk Inventor Advanced Assembly Modelling 3 Days

COURSE DESCRIPTION

This course builds on the skills acquired in the Autodesk Inventor Introduction to Solid Modelling and Autodesk Inventor Advanced Part Modelling training courses. This course will enable you to be more productive, going beyond simple part design, to creating and working with assemblies in Autodesk Inventor. The course introduces advanced features for constraining models, making associative links, using design accelerators and introducing rendering models.

COURSE MODULES

- Applying Motion to Existing Assembly Constraints
- Introduction to the Top-Down Design Technique
- Tools for Top-Down Design
- Creating Positional Representations
- Using Shrinkwrap and other Model Simplification Tools
- Creating Level of Detail Representations
- Using Design Accelerator
- Creating Rendered Realistic Images and Animations
- Using iMates and iAssemblies to work with Assemblies
- Duplicating Components in an Assembly
- Using the Frame Generator to Create Structural Members
- Working with Weldments
- Link and Drive Parameters to and from a Spreadsheet

OTHER INFORMATION

Prerequisites

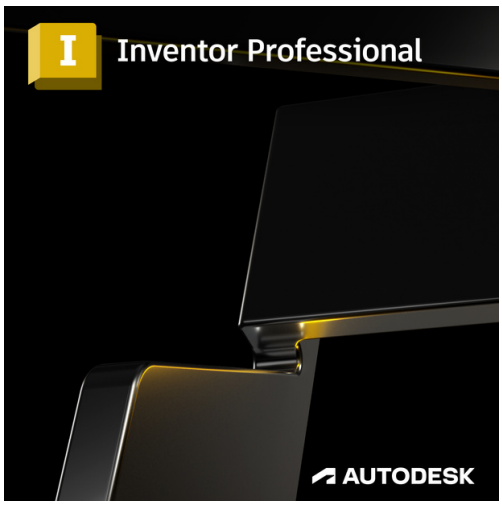
This course assumes a mastery of Inventor Basics. Understanding of Part Modelling is recommended.

Course Duration

3 Days

Next Steps

Autodesk Inventor Dynamic Simulation



Autodesk Inventor iLogic 2 Days

COURSE DESCRIPTION

This course will teach you how to use the iLogic functionality within the Autodesk Inventor software. You will learn how to use iLogic to automate Autodesk Inventor designs and how iLogic functionality furthers the use of parameters in a model by adding an additional layer of intelligence. By setting criteria in the form of established rules, you will learn to capture design intent, enabling you to automate the design workflow to meet various design scenarios in part, assembly and drawing files.

COURSE MODULES

- iLogic Functionality Overview
- iLogic Workflow Overview
- Review of Parameters and Equations in iLogic
- Understanding the iLogic Interface Components
- Rule Creation Workflow for Inventor Parts and Assemblies
- Using Variations of Conditional Statements in an iLogic Rule
- Incorporating Function Types into an iLogic Part or Assembly
- Event Triggers and iTriggers
- Creating Forms to Create a Customer User Interface for a Rule

OTHER INFORMATION

Prerequisites

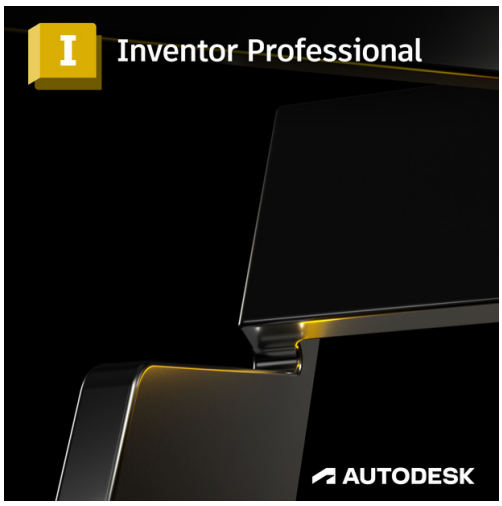
This course assumes a mastery of Autodesk Inventor basics and knowledge of Part or Assembly Modelling is recommended.

Course Duration

2 Days

Next Steps

Autodesk Inventor Advanced Assembly Modelling



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Autodesk Inventor Sheet Metal Design 2 Days

COURSE DESCRIPTION

This course introduces the concepts and techniques of sheet metal modelling with Autodesk Inventor. The structure of the course follows the typical stages of using Inventor and will teach you how to create sheet metal parts, edit them, generate flat patterns and document the designs in drawings.

COURSE MODULES

- Autodesk Inventor Sheet Metal Interface
- Sheet Metal Design Process
- Creating Base Faces, Contour Flanges and Contour Rolls
- Creating Secondary Faces, Contour Flanges and Contour Rolls
- Sheet Metal Parameters
- Creating Flanges
- Creating Hems, Folds and Bends
- Corner Rounds and Chamfers
- Sheet Metal Cuts (Holes, Cuts and Punch Features)
- Corner Seams (Seams and Mitres)
- Generating Flat Patterns
- Lofted Flanges
- Rips
- Unfolding and Refolding
- Multi-Body Sheet Metal Modelling
- Documentation and Annotation of Drawings
- Converting Solid Models to Sheet Metal Models
- Sheet Metal Styles

OTHER INFORMATION

Prerequisites

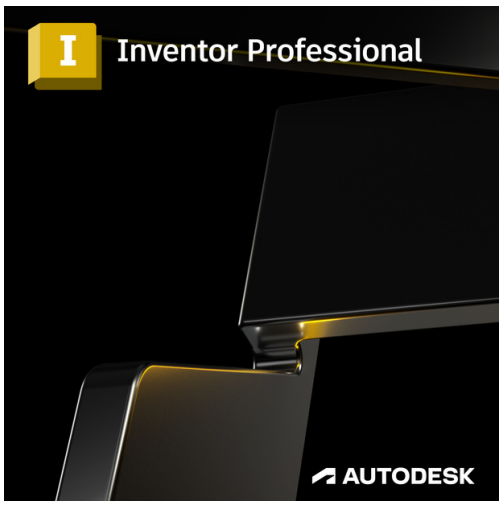
This course assumes prior knowledge of Inventor 3D Solid Part Modelling.

Course Duration

2 Days

Next Steps

Autodesk Inventor Advanced Assembly Modelling



Autodesk Inventor Cable and Harness Design

2 Days

COURSE DESCRIPTION

This course will teach you how to design physical cables and harnesses for electrical symbols in almost any kind of product or machine. With specific tools to incorporate cable and harness into digital prototypes, Autodesk Inventor enables you to calculate accurate path lengths, avoid small-radius bends and helps ensure electrical components fit into your mechanical assembly before manufacturing.

COURSE MODULES

- Functionality of Cable and Harness
- Basic Workflow to Add and Document Designs
- Wire a Harness Assembly
- Refine a Design by Editing the Wires, Cables or Routes
- Refine a Design by Adding and Editing Splices
- Refine a Design by Adding and Editing Virtual Parts
- Create and Annotating 2D Drawings and Export Design Data
- Create and Manage the Library Files and Configuration Files
- Create, Author and Publish Electrical Parts and Connectors

OTHER INFORMATION

Prerequisites

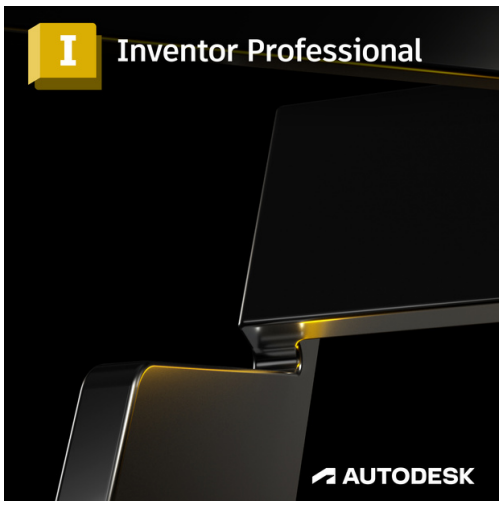
Assume a mastery of Inventor basics as taught in Inventor Introduction to Solid Modelling.

Course Duration

2 Days

Next Steps

A bespoke course



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Autodesk Inventor Tube and Pipe Design 2 Days

COURSE DESCRIPTION

With specific tools to incorporate tube and pipe runs into digital prototypes, the Inventor Tube and Pipe environment provides rules-based routing tools that select the correct fittings and helps the pipe run to comply with standards for segment length round-off increments and bend radius. Through a hands-on learning experience, you will acquire the knowledge needed to design routed elements, including tubing, piping and flexible hose.

COURSE MODULES

- The Tube and Pipe Environment and why you would use it
- Set up Routes and Runs
- Place the Initial Fittings in your Tube and Pipe Design
- Create, Edit and Manage Routes
- Manage Content Libraries
- Publish Custom Content Libraries
- Create New Styles that use Custom Content
- Document Tube and Pipe Designs
- Export the 3D Design Data

OTHER INFORMATION

Prerequisites

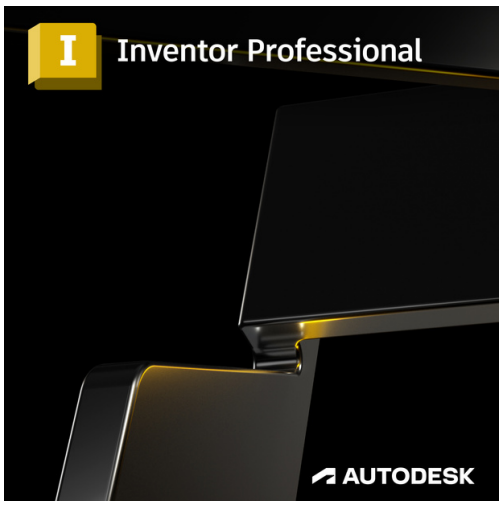
This course is designed for experienced Inventor users.

Course Duration

2 Days

Next Steps

Autodesk Inventor Dynamic Simulation



Autodesk Inventor for Experienced 3D CAD Users 3 Days

COURSE DESCRIPTION

This course provides accelerated introductory training in the Autodesk Inventor software and is designed for those that have 3D modelling design experience with other 3D CAD software packages (e.g. CATIA, Pro/Engineer, Creo, NX, SolidWorks). You will be taught how to find and use the modelling tools associated with familiar modelling strategies that are used in other 3D CAD software's.

COURSE MODULES

- The Autodesk Inventor Software Interface
- Obtaining Model Information
- Creating Sketch and Pick and Place Features
- Work Features
- Creating Equations and Working with Parameters
- Model Geometry and Model Display Manipulation
- Feature Duplication Techniques
- Placing and Constraining Parts in Assemblies
- Assembly Component Display
- Presentation Files (Exploded Views)
- Assembly Tools
- Creating Parts and Features in Assemblies
- Assembly Bill of Materials
- Working with Projects
- Creating and Annotating Drawings and Views

OTHER INFORMATION

Prerequisites

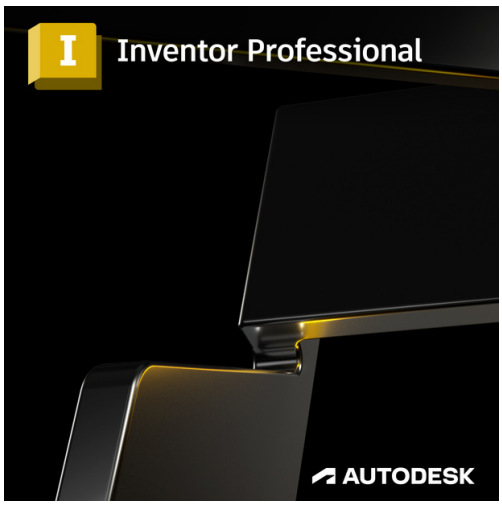
Prior knowledge to 3D modelling and other 3D CAD software.

Course Duration

3 Days

Next Steps

Autodesk Inventor Dynamic Simulation



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

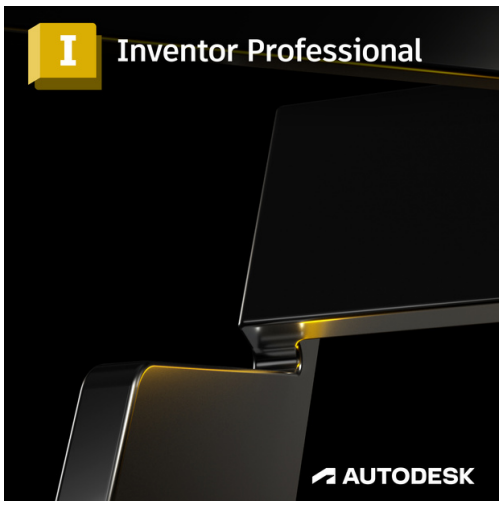
A good working knowledge of Autodesk Inventor.

Course Duration

2 Days

Next Steps

A bespoke course



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Autodesk Inventor Design Tools and Strategies

1 Day

COURSE DESCRIPTION

Traditionally, CAD systems like Autodesk Inventor work from a bottom up design approach. In some cases it is beneficial to work with a top down approach when creating the model geometry for your designs. This is the focus of this course with particular emphasis on multi-body solid modelling. You will also learn how to deliver components, work with layouts, sketch blocks, associative links and adaptive parts in order to capture design intent within your 3D models.

COURSE MODULES

- Enforce Design Intent using Major Top-Down Techniques
- Create Solid Bodies
- Correctly Assign Features to Specific Solid Bodies
- Modify Solid Bodies in a Model
- Create New Parts and Assemblies from Multi-Bodies
- Derive New Geometry in a Part
- Create and Modify Layouts and Sketch Blocks
- Define and Test the Kinematic Motion
- Create 3D Models from Sketch Blocks
- Promote a Shape Generator Study to the Modelling Environment
- Create Structural Frame Members
- Adjust Frame Member Ends to Obtain Required Joints
- Create and Publish Customer Frame Member Profiles
- Automatically Create Geometry using Component Generators

OTHER INFORMATION

Prerequisites

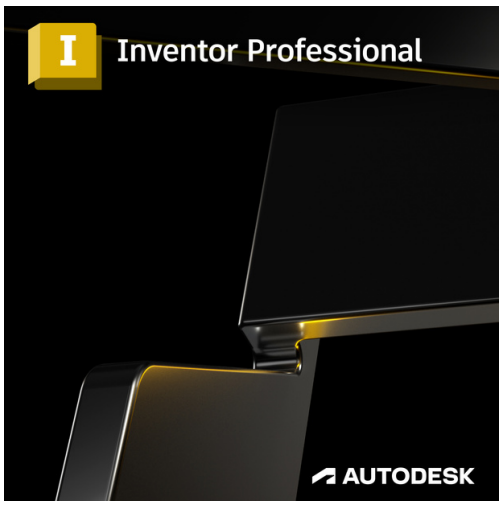
This course assumes a good working knowledge of Autodesk Inventor.

Course Duration

1 Day

Next Steps

A bespoke course



Autodesk Inventor Design Variations and Representations 1 Day

COURSE DESCRIPTION

Autodesk Inventor allows the efficient creation and representation of designs, using both new and existing geometry. This course focuses on using existing geometry to leverage pre-existing information in order to quickly create additional or varied components and designs using iParts, iAssemblies and iFeatures. Once your designs are complete, learn how to aid assembly placement with iMates before controlling a components range of motion or generating simplified geometry for sharing with external organisation whilst protecting corporate IP.

COURSE MODULES

- Create and Plan an iFeature and Table-Driven iFeatures
- Use the Copy Command to Duplicate Features
- Create an iPart that can Generate Different Configurations
- Insert Standard or Custom iParts into an Assembly
- Modify an iPart Factory
- Use a Table-Driven iPart to Create an iFeature
- Build iMate Constraints into Parts or Subassemblies
- Match iMates of Parts in an Assembly and Use a Match List
- Create, Place and Edit an iAssembly
- Create and Edit Different Positional Representations
- Create a Shrinkwrap Part
- Combine use of Simplified Views, Envelopes and Visibility Settings
- Create and Use Level of Detail Representations in an Assembly

OTHER INFORMATION

Prerequisites

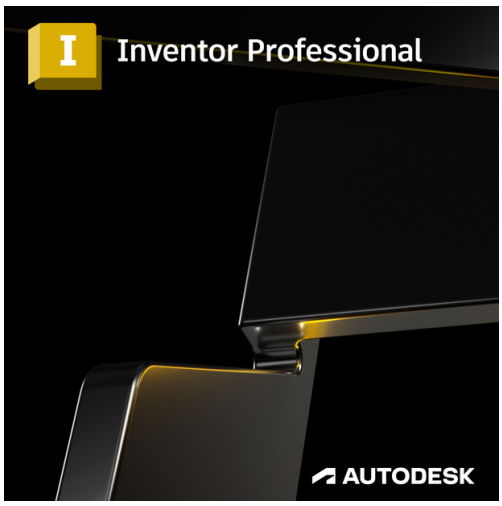
This course assumes a good working knowledge of Autodesk Inventor.

Course Duration

1 Day

Next Steps

A bespoke course



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Autodesk Inventor Presenting Designs with Image and Animation Tools 1 Day

COURSE DESCRIPTION

Building up a design is one thing, presenting that design to colleagues, clients or executives is another. Autodesk Inventor provides you with the tools needed to visualise and present your design to greater affect, and to allow a better understanding and communication of design intent and product use. Add visual styles and realistic materials to your components before visualising with shadows, reflections and lighting effects. Show and animate your designs being assembled in the presentation environment of Autodesk Inventor to demonstrate how components relate to one another, and to better understand and appreciate design intent.

COURSE MODULES

- Enhancing the Appearance of Surfaces and Edges
- Customising and Assigning Lighting Styles
- Creating, Assigning and Editing Existing Appearances in the Model
- Using the Appearance Browser
- Documenting an Assembly Model using Presentation Files
- Creating Presentation Files with Animations or Snapshot Views
- Publishing a Presentation File to Create Images and Videos
- Rendering a Realistic Image of a Model
- Creating a Realistic Animation of a Model
- Creating a Composite Video
- Creating a Custom Environment for use when Rendering Models

OTHER INFORMATION

Prerequisites

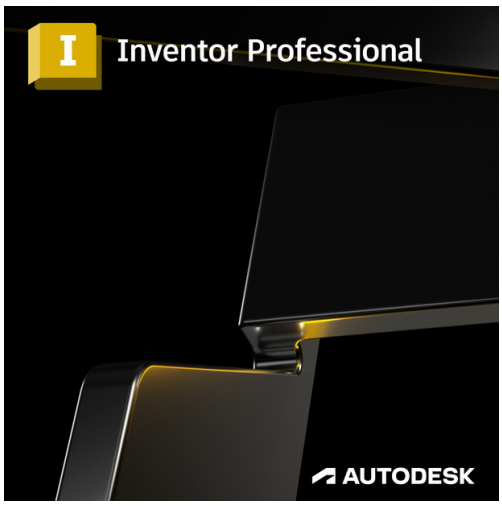
This course assumes a good working knowledge of Autodesk Inventor.

Course Duration

1 Day

Next Steps

A bespoke course



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Autodesk Inventor Surface and Freeform Modelling 1 Day

COURSE DESCRIPTION

As well as industry leading solid modelling tools, Autodesk Inventor gives its users the capability of both high end surfacing tools and freeform modelling techniques. Whether you need to incorporate surface models into your designs, or use push and pull design methods to freeform a component from a mesh object, our course will give you the knowledge you need to enhance your daily workflows.

COURSE MODULES

- Create Spline and 3D Sketched Entities
- Create Planar and 3D Surfaces
- Combine Individual Surface Features into a Single Quilted Surface
- Add or Remove Material in a Model by Referencing a Surface
- Create Solid Geometry using Surface Geometry
- Remove Portions of a Surface
- Manipulate the Extent of a Surface by Extending or Stretching it
- Create a New Solid Face by Replacing an Existing Solid Face
- Remove Exiting Surfaces or Solid Faces from a Model
- Copy Surfaces from One Model to Another
- Create Freeform Geometry Base Shapes and Faces
- Edit Freeform Base Geometry
- Use the Surface Analysis Tools

OTHER INFORMATION

Prerequisites

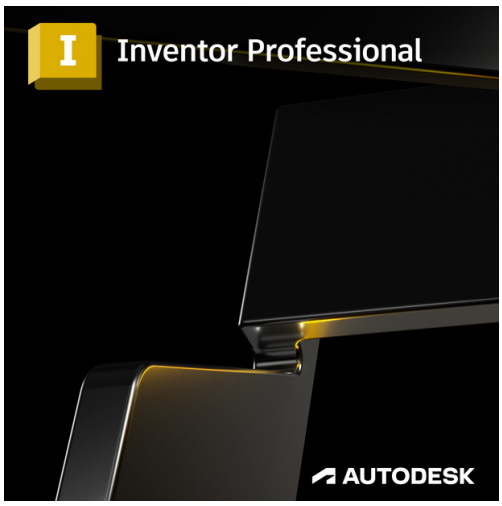
This course assumes a good working knowledge of Autodesk Inventor.

Course Duration

1 Day

Next Steps

A bespoke course



Autodesk Inventor: Working with 3D Annotations and Model-Based Definitions 1 Day

COURSE DESCRIPTION

In modern 3D Modelling and Manufacturing Design Applications such as Autodesk Inventor, you are not required to wait until you are annotating your 2D drawings to define and display annotations next to you designs. Using Model Based Definitions (MBD) inside of Autodesk Inventor, you can create 3D annotations to support the visual presentation of your model inside both Autodesk Inventor and 3D PDF files. This course guides you through the Model Based Definitions workflow, from creating 3D annotations to linking these directly to your 2D drawings or exporting out to 3D PDF and STEP formats.

COURSE MODULES

- Creating Dimensional Annotations
- Creating Hole/Thread Note Annotations
- Creating Surface Texture Annotations
- Creating Text-Based Annotations
- Creating Tolerance Features to a Model
- Using the Tolerance Advisor to Review Messages and Warnings
- Creating a General Profile Note Annotation

OTHER INFORMATION

Prerequisites

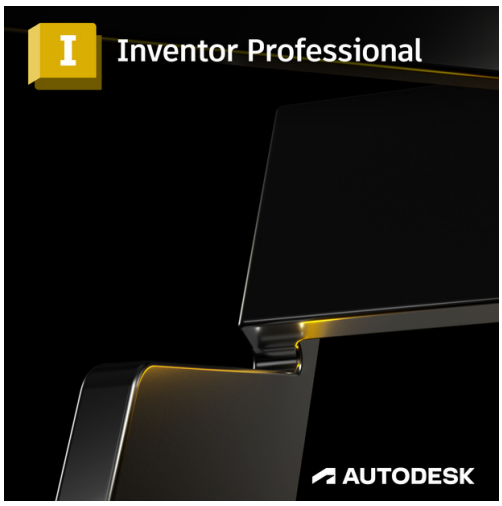
This course assumes a good working knowledge of Inventor functionality from 2018 onwards.

Course Duration

1 Day

Next Steps

A bespoke course



CONTACT US

www.manandmachine.co.uk

01844 263700

sales@manandmachine.co.uk

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