

Autodesk Inventor Essentials

Courseware Description

Learn the fundamental principles of 3D parametric part design, assembly design, and creating production-ready part and assembly drawings using Autodesk® Inventor®. Hands-on exercises representing real-world, industry-specific design scenarios are included.

This guide offers both imperial and metric hands-on exercises representing real-world structural design scenarios.

Course Duration:	4 days
Pages	Vol.1 – 412; Vol. 2 - 496
Trial CD	Yes
Onscreen Exercises	Yes

Objectives

Provide users with a thorough understanding of the principal 3D design, validation, and documentation processes necessary for developing products using Autodesk Inventor.

After completion, users will:

- Capture design intent by using the proper techniques and recommended workflows for creating intelligent 3D parametric parts.
- Create, place, and constrain custom and standard components in an assembly.
- Simulate mechanisms, animate assembly designs, and check for interferences.
- Document designs using base, projected, section, detail, and isometric drawing views.
- Document assemblies using standard and exploded drawing views.
- Follow drafting standards while dimensioning and annotating drawing views with automated balloons and parts lists.

Who Should Attend

New Autodesk Inventor users.

Prerequisites

No previous CAD experience is necessary. Working knowledge of the following:

- Drafting, design, or mechanical engineering principles.
- Microsoft® Windows® Vista or Microsoft® Windows® XP.

Course Outline

Day 1

Getting Started

- Autodesk Inventor User Interface
- View Manipulation
- Designing Parametric Parts

Basic Sketching Techniques

- Creating 2D Sketches
- Geometric Constraints
- Dimensioning Sketches

Basic Shape Design

- Creating Basic Sketched Features
- Intermediate Sketching
- Editing Parametric Parts
- 3D Grip Editing
- Creating Work Features
- Creating Basic Swept Shapes

Day 2

Detailed Shape Design

- Creating Chamfers and Fillets
- Creating Holes and Threads
- Patterning and Mirroring Features
- Creating Thin-Walled Parts

Assembly Design Overview

- Designing Assemblies
- Using Project Files in Assembly Designs

Placing, Creating, and Constraining Components

- Placing Components in an Assembly
- Constraining Components
- Placing Standard Components Using the Content Center
- Basic Part Design in an Assembly

Day 3

Interacting with an Assembly

- Identifying Parts in an Assembly
- Analysis and Motion Tools
- Presenting Your Assembly

Basic View Creation

- Drawing Creation Environment
- Base and Projected Views
- Section Views
- Detail Views
- Crop Views
- Managing Views

Dimensions, Annotations, and Tables

- Automated Dimensioning Techniques
- Manual Dimensioning Techniques
- Annotating Holes and Threads
- Creating Centerlines, Symbols, and Leaders
- Revision Tables and Tags
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Day 4

Annotating Assembly Drawings

- Assembly-Centric Bill of Materials
- Creating and Customizing Parts Lists
- Creating Balloons

Drawing Standards and Resources

- Setting Drawing Standards
- Drawing Resources