Autodesk Inventor Advanced Assembly Training Course

Course Overview

Course Length: 16-Hours

- 16-Hours - 8 x 2-hour training sessions
- Remote training over MS Teams
- Sessions are recorded and download links for each session are provide for future use
- Training for up to 1-3 People
- Sessions can start within 7 days upon ordering
- Flexible sessions (i.e. consecutive or Monday, Wednesday, Friday, etc.)
- Courses are private and topics can be customised to suit
- Includes Certificate of Completion

The Autodesk Inventor Advanced Assembly Modelling course builds on the skills acquired in the Autodesk Inventor Introduction to Solid Modelling and Autodesk Inventor Advanced Part Modelling courses to take you to a higher level of productivity when creating and working with assemblies.

You begin by focusing on the Top-Down Design workflow. You learn how tools are used to achieve this workflow using Derive, Multi-Body Design, and Layouts. Other topics include model simplification tools, Positional and Level of Detail Representations, iMates and iAssemblies, Frame Generator, Design Accelerator, and file management and duplication techniques. A section has also been included about the Autodesk Inventor Studio to teach you how to render, produce, and animate realistic images.

Topics Covered

- Applying motion to existing assembly constraints using Motion and Transitional Constraints.
- Introduction of the Top-Down Design technique for creating assemblies and their components.
- Tools for Top-Down Design, such as associative links, adaptive parts, multi-body and layout design, derived components, and skeleton models.
- Creating Positional Representations to review motion, evaluate the position of assembly components, or document an assembly in a drawing.
- Using Shrinkwrap and other model simplification tools to create a part model that represents an overall assembly.
- Creating Level of Detail Representations to reduce clutter in large assemblies, reduce retrieval times, and substitute models.
- Using the Design Accelerator to easily insert standard and customisable components and features into your model.
- Creating rendered realistic images and animations of parts and assemblies using Autodesk Inventor Studio and the Video Producer.

Prerequisites

- The class assumes mastery of Autodesk Inventor basics as taught in Autodesk Inventor Introduction to Solid Modelling. In addition, Autodesk Inventor Advanced Part Modelling knowledge is recommended.
- The use of Microsoft® Excel is required for this training course.

Training Guide Contents

Chapter 1: Working Effectively with Assemblies

- 1.1 General Assembly Tips
- 1.2 Relationship Tips
- 1.3 Motion Constraints
- 1.4 Transitional Constraints

Chapter 2: Introduction to Top-Down Design

- 2.1 Top-Down Design Process
- 2.2 Top-Down Design Tools

Chapter 3: Derived Components

- 3.1 Derived Components
- 3.2 Modify Derived Components

Chapter 4: Multi-Body Part Modelling

- 4.1 Multi-Body Part Modelling

Chapter 5: Layout Design

- 5.1 Layout Design

Chapter 6: Associative Links and Adaptive Parts

- 6.1 Associative Links
- 6.2 Adaptive Assembly Parts

Chapter 7: iMates

- 7.1 iMates

Chapter 8: Positional Representations

- 8.1 Introduction to Positional Representations
- 8.2 Create and Edit Positional Representations
- 8.3 Use Positional Representations

Chapter 9: Model Simplification

- 9.1 Shrinkwrap
- 9.2 Assembly Simplification

Chapter 10: Level of Detail Representations

- 10.1 Level of Detail Representations
- 10.2 System-Defined Level of Detail Representations
- 10.3 User-Defined Level of Detail Representations

- 10.4 Using Level of Detail Representations
- 10.5 Substitute Level of Detail Representations
- 10.6 LOD Productivity Tools

Chapter 11: Design Accelerator

- 11.1 Design Accelerator
- 11.2 Generators
- 11.3 Calculators
- 11.4 Engineer's Handbook

Chapter 12: Advanced File Management

- 12.1 Design Assistant
- 12.2 Pack and Go
- 12.3 Purging Old Files

Chapter 13: Inventor Studio

- 13.1 Rendering
- 13.2 Animation
- 13.3 Video Producer
- 13.4 Creating a Standard Room

Chapter 14: iAssemblies

- 14.1 Introduction
- 14.2 Create Basic iAssemblies
- 14.3 Create Multi-Level iAssemblies
- 14.4 Create iAssemblies Using Existing Assemblies
- 14.5 Place iAssemblies
- 14.6 Edit iAssemblies

Chapter 15: Frame Generator

- 15.1 Frame Generator
- 15.2 Structural Shape Author

Chapter 16: Assembly Duplication Options

- 16.1 Pattern Components
- 16.2 Mirror Components
- 16.3 Copy Components

Chapter 17: Working with Weldments

- 17.1 Working with Weldments
- 17.2 Fillet Welds
- 17.3 Cosmetic Welds
- 17.4 Groove Welds

Appendix A: Working with Spreadsheets and Parameters

- A.1 Spreadsheet-Driven Parameters
- A.2 Custom Parameters
- A.3 Custom Parameter Formatting and Expressions

Appendix B: Autodesk Inventor Certification Exam Objectives