

## Technical Education Services

### Autodesk Inventor Introduction for Experienced 3D CAD Users

#### Course Length: 3 days

The Autodesk Inventor Introduction for Experienced 3D CAD Users training course is intended to provide accelerated introductory training in the Autodesk® Inventor® software. This learning guide is designed for users that have 3D modeling design experience with other 3D CAD software packages (e.g., CATIA™, Pro/ENGINEER®, Creo Parametric™, NX™, SolidWorks®, etc.).

By leveraging the experience users gain in working with other 3D modeling software packages, this hands-on, practice-intensive training course is developed so that new users in the Autodesk Inventor software can benefit from a shorter, introductory-level, training course. You are taught how to find and use the modeling tools associated with familiar modeling strategies that are used in other 3D CAD software. You will acquire the knowledge required to complete the process of creating models from conceptual sketching, through to solid modeling, assembly design, and drawing production.

#### Topics Covered

- 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 and Animations)
- Assembly tools
- Creating parts and features in assemblies
- Creating and editing assembly Bill of Materials
- Working with projects
- Creating and annotating drawings and views

#### Prerequisites

Prior knowledge of 3D modeling and 3D CAD software. Users with AutoCAD® or AutoCAD® Mechanical experience are recommended to use the Autodesk Inventor Introduction to Solid Modeling course.

*Course description shown for Autodesk Inventor 2020. Topics, curriculum, and/or prerequisites may change depending on software version.*



## Training Guide Contents

### Chapter 1: Introduction to Autodesk Inventor

- 1.1 Getting Started
- 1.2 Autodesk Inventor Interface
- 1.3 Model Manipulation
- 1.4 Model Information

### Chapter 2: Sketching Geometry

- 2.1 Creating a New Part File
- 2.2 Creating a Sketch
- 2.3 Sketch Geometry
- 2.4 Constraints
- 2.5 Dimensions
- 2.6 Additional Sketching Tools

### Chapter 3: Creating Sketched Features

- 3.1 Extrude & Revolve Features
- 3.2 Sweep Features
- 3.3 Loft Features
- 3.4 Editing Sketched Features

### Chapter 4: Creating Pick and Place Features

- 4.1 Edge Chamfer
- 4.2 Constant Fillets
- 4.3 Variable Fillets
- 4.4 Face Fillets
- 4.5 Full Round Fillets
- 4.6 Holes
- 4.7 Threads
- 4.8 Editing Pick and Place Features

### Chapter 5: Work Features

- 5.1 Work Planes
- 5.2 Work Axes
- 5.3 Work Points

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## Chapter 6: Additional Features

- 6.1 Face Draft
- 6.2 Splitting a Face or Part
- 6.3 Shells
- 6.4 Ribs
- 6.5 Reordering Features
- 6.6 Inserting Features

## Chapter 7: Equations

- 7.1 Equations
- 7.2 Parameters

## Chapter 8: Duplication Tools

- 8.1 Rectangular Sketch Patterns
- 8.2 Circular Sketch Patterns
- 8.3 Rectangular Feature Patterns
- 8.4 Circular Feature Patterns
- 8.5 Sketched Driven Patterns
- 8.6 Mirror Parts or Features
- 8.7 Manipulate Patterns and Mirror Features

## Chapter 9: Assembly Environment

- 9.1 Assembling Components Using Constraints
- 9.2 Assemble Mini-Toolbar
- 9.3 Content Center
- 9.4 Assembly Browser
- 9.5 Saving Files

## Chapter 10: Joint Connections

- 10.1 Assembling Components Using Joints

## Chapter 11: Manipulating Assembly Display

- 11.1 Moving and Rotating Assembly Components
- 11.2 Suppressing Constraints
- 11.3 Component Display
- 11.4 Selection Options in Assemblies

## Chapter 12: Presentation Files

- 12.1 Creating Presentations
- 12.2 Storyboards
- 12.3 Snapshot Views
- 12.4 Publishing a Presentation File

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### Chapter 13: Assembly Tools

- 13.1 Replacing Components
- 13.2 Duplicating Components
- 13.3 Restructuring Components
- 13.4 Driving Constraints
- 13.5 Contact Solver
- 13.6 Interference
- 13.7 Error Recovery

### Chapter 14: Assembly Parts and Features

- 14.1 Assembly Parts
- 14.2 Assembly Features

### Chapter 15: Assembly Bill of Materials

- 15.1 Create Virtual Components
- 15.2 Create Bill of Materials

### Chapter 16: Working With Projects

- 16.1 Project Files
- 16.2 Resolving Links

### Chapter 17: Drawing Basics

- 17.1 Creating a New Drawing
- 17.2 Base and Projected Views
- 17.3 Additional Drawing Views
- 17.4 Manipulating Views

### Chapter 18: Detailing Drawings

- 18.1 Dimensions
- 18.2 Drawing Sheets
- 18.3 Parts List
- 18.4 Balloons
- 18.5 Styles and Standards
- 18.6 Hatching

### Chapter 19: Drawing Annotations

- 19.1 Text
- 19.2 Symbols
- 19.3 Hole and Thread Notes
- 19.4 Chamfer Notes
- 19.5 Center Marks and Center Lines
- 19.6 Hole Tables
- 19.7 Revision Tables and Tags

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### Appendix A: Sketching Options

- A.1 Sketch Geometry Creation Options
- A.2 Sketch Editing Options
- A.3 Sketch Constraint Options
- A.4 Dimension Type Options

### Appendix B: Customizing Autodesk Inventor

- B.1 Application Options
- B.2 Document Settings
- B.3 File Properties
- B.4 Changing Part Units
- B.5 Command Customization

### Appendix C: Additional Practices

### Appendix D: Autodesk Inventor Certification Exam Objectives

## Cancellation Policy

The following cancellation policy shall apply to all training engagements, Live Online, Consulting Services and Dedicated/Custom Training:

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.
- For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.

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- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company's Training Coordinator ([trainingcoordinator@rand.com](mailto:trainingcoordinator@rand.com))
- For all Training orders, cancellation notices must be submitted to [trainingcoordinator@rand.com](mailto:trainingcoordinator@rand.com). Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

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