

Autodesk Fusions 360 Introduction to Parametric Modeling

The Autodesk® Fusion 360™ Introduction to Parametric Modeling learning guide provides you with an understanding of the parametric design philosophy using the Autodesk® Fusion 360™ software.

Objectives

Through a hands-on, practice-intensive curriculum, you will learn the key skills and knowledge required to design models using the Autodesk Fusion 360 software. This learning guide will also assist you in preparing for the Autodesk Fusion 360 Certified User exam.

Duration

4 days

Prerequisites

No prior knowledge of any 3D modeling or CAD software is required. However, students do need to be experienced with the Windows operating system and a background in drafting of 3D parts is recommended

Topics Covered

- Introduction to Autodesk Fusion 360
- Autodesk Fusion 360 Fundamentals Concepts
 - Feature-Based Modeling
 - Parametric Features
 - Direct Modeling
 - Managing Assembled Designs
 - Design Documentation
 - Associativity
- Getting Started
 - Understanding Workspaces
 - Understanding Projects
- The Autodesk Fusion 360 Interface
 - Design Navigation & Display
 - Creating the First Feature with Quick Shapes
 - Design Units and Origin
 - Quick Shape Creation
- Creating Sketched Geometry
 - Sketch Entities
 - Dimensioning
 - Sketch Constraints
 - 3D Extruding a Sketch
 - Revolving a Sketch
- Additional Sketching Tools
 - Additional Entity Types
 - Editing Tools
 - Additional Dimension Tools
 - Moving and Copying
 - Rectangular Sketch Patterns
 - Circular Sketch Patterns
- Sketched Secondary Features
- Pick and Place Features
 - Fillets
 - Chamfers
 - Holes
 - Editing Pick and Place Features
- Construction Features
 - Construction Planes
 - Construction Axes
 - Construction Points
- Equations and Parameters
- Additional Features and Operations
 - Draft
 - Shell
 - Rib
 - Split Face
 - Scale
 - Thread
 - Press Pull
- Design and Display Manipulation
 - Reordering Features
 - Inserting Features
 - Suppressing Features
 - Direct Modeling
- Single Path Sweeps
- Loft Features
- Feature Duplication Tools
 - Mirroring Geometry
 - Patterning Features
- Distributed Design
 - Assembly Design Methods
 - Distributed Design
 - Joint Origins
 - Assigning Joints
- Component Design Tools
 - Rigid Groups
 - Interference Detection
 - Miscellaneous Joint Tools
- Multi-Body Design
 - Multi-Body Design Tools
 - Components
 - As-Built Joints
- Sculpting Geometry
 - Surface Quick Shapes
 - Creating Sketched T-Spline Surfaces
 - Creating Faces & Filling Holes
- Editing Sculpted Geometry
 - Deleting Entities

- Working with Edges
- Working with Faces
- Working with Points
- Controlling Symmetry
- Thickening Geometry
- Drawing Basics
 - Creating a New Drawing
 - Additional Drawing Views
 - Exploded Views
 - Manipulating Drawings
- Detailing Drawings
 - Dimensions
 - Other Annotations
- Parts List and Balloons
- Annotation and Dimension Settings
- Drawing Output
- Static Analysis Using the Simulation Environment
 - Setting up a Structural Static Analysis
 - Setting up the Mesh
 - Solving a Design Study
 - Visualizing the Results