

Autodesk® Fusion 360® - Fundamentals

Brief Synopsis of Class Contents:

Autodesk® Fusion 360® 3D CAD software offers an easy-to-use set of tools for 3D mechanical design, Engineering & simulation, CAM, and team collaboration. In this introductory course, students acquire the knowledge needed to complete the process of designing models from conceptual sketching, through to solid modeling, assembly design, and drawing production. This course is intended as an introductory training guide. Autodesk® Fusion 360® Fundamentals does not assume prior knowledge of any 3D modeling or CAD software. Students do need to be experienced with the Windows operating system and a background in drafting of 3D parts is recommended.

Learning Objectives:

- Navigate the Autodesk® Fusion 360® user interface
- Generating 3D parts from sketches
- Placing and constraining/connecting parts in assemblies
- Assembly Parts Lists
- Creating and annotating drawings and views

Courseware:

Ascent Autodesk Fusion 360 Introduction to Parametric Modeling

Number of Days:

6 Half Day Sessions

Continuing Education Hours:

21 hours

Who Should Attend:

This course is designed to teach new users the fundamental features of Autodesk® Fusion 360®.

Prerequisites:

Experienced with the Windows operating system and a background in drafting of 3D parts is recommended

System and Software Requirements:

<http://www.asti.com/LiveLab-Learning-amp-Training/LiveLab-System-Requirements>

FAQs and Cancellation Policy:

<http://www.asti.com/LiveLab-Learning-amp-Training/LiveLab-FAQS>

Class Outline and Topics:

Chapter 1: Introduction to Autodesk Fusion 360

- Fusion 360 Fundamentals
- Getting Started
- The Fusion 360 Interface
- Design Navigation & Display

Chapter 2: Creating the First Feature with Quick Shapes

- Design Units and Origin
- Quick Shape Creation

Chapter 3: Creating Sketched Geometry

- Introduction to the Sketching Workflow
- Sketch Entities
- Dimensioning
- Sketch Constraints
- Extruding a Sketch
- Revolving a Sketch

Chapter 4: Additional Sketching Tools

- Additional Entity Types
- Editing Tools
- Additional Dimension Tools
- Moving and Copying
- Rectangular Sketch Patterns
- Circular Sketch Patterns

Chapter 5: Sketched Secondary Features

- Sketched Secondary Features
- Using Existing Geometry

Chapter 6: Pick and Place Features

- Fillets
- Chamfers

- Holes
- Editing Pick and Place Features

Chapter 7: Construction Features

- Construction Planes
- Construction Axes
- Construction Points

Chapter 8: Equations and Parameters

- Equations
- Parameters

Chapter 9: Additional Features and Operations

- Draft
- Shell
- Rib
- Split Face
- Scale
- Thread
- Press Pull

Chapter 10: Design and Display Manipulation

- Reordering Features
- Inserting Features
- Suppressing Features
- Measure and Section Analysis
- Direct Modeling

Chapter 11: Single Path Sweeps

- Sweeps

Chapter 12: Loft Features

- Lofts

Chapter 13: Feature Duplication Tools

- Mirroring Geometry
- Patterning Features

Chapter 14: Distributed Design

- Assembly Design Methods
- Distributed Design
- Joint Origins
- Assigning Joints

Chapter 15: Component Design Tools

- Rigid Groups
- Interference Detection
- Miscellaneous Joint Tools

Chapter 16: Multi-Body Design

- Multi-Body Design
- Multi-Body Design Tools
- Components
- As-Built Joint

Chapter 17: Sculpting Geometry

- Introduction to the Sculpt Environment
- Surface Quick Shapes
- Creating Sketched T-Spline Surfaces
- Creating Faces & Filling Holes

Chapter 18: Editing Sculpted Geometry

- Editing Form Geometry
- Deleting Entities
- Working with Edges
- Working with Faces
- Working with Points
- Controlling Symmetry
- Thickening Geometry

Chapter 19: Drawing Basics

- Creating a New Drawing
- Additional Drawing Views
- Exploded Views
- Manipulating Drawings

Chapter 20: Detailing Drawings

- Dimensions
- Other Annotations
- Parts List and Balloons
- Annotation and Dimension Settings
- Drawing Output

Chapter 21: Static Analysis Using the Simulation Environment

- Introduction to the Simulation Environment
- Setting up a Structural Static Analysis
- Setting up the Mesh
- Solving a Design Study
- Visualizing the Results

Appendix A: Outputting for 3D Printing

- Generating a .STL file