

# Autodesk® Fusion 360® Fundamentals Syllabus

---

## Course Description

Autodesk Fusion 360 3D CAD software offers an easy-to-use set of tools for 3D mechanical design, engineering and 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 not need to be experience with the Windows operating system and a background in drafting of 3D parts is recommended.

## Course Objectives:

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

---

## Courseware

Ascent Autodesk Fusion 360 Introduction to Parametric Modeling

## Number of Days

6 Half Day Sessions

## Who Should Attend

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

## Continuing Education Hours

21 Hours

## Prerequisites

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

## System and Software Requirements

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

## FAQs and Cancellation Policy

<https://www.asti.com/LiveLab-Learning-amp-Training/LiveLab-FAQs>

# Autodesk Fusion 360

## Fundamentals Course Outline

### Outline

### 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: Equation 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

# Autodesk Fusion 360

## Fundamentals Course Outline

Outline	Topics
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 Joints
Chapter 17: Editing Sculpted Geometry	Introduction to the Sculpt Environment Surface Quick Shapes Creating Sketched T-Spline Surfaces Creating Faces & Filling Holes
Chapter 18: Editing Sculpted Geometry	Editing from 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