

Introduction to 3D Modeling for Manufacturing

Overview

Good designers and engineers know how to explore and iterate their designs. Thankfully, computer-aided design (CAD) allows you to do just that—explore and iterate your design until the model suits your needs.

Take your next step by learning to move seamlessly between 2D sketching to 3D modeling. Uncover key Fusion 360 workspaces, including sketching, parametric modeling, free-form modeling and sculpting, and direct and assembly modeling. Get the skills needed to use CAD from the start, applying its full capabilities when exploring and changing your designs. Explore and apply various 3D modeling techniques that bring it all together, by learning how to create technical drawings for production.

After completing this course, you'll be able to:

- Understand the parametric CAD workflow.
- Identify interface aspects of Fusion 360.
- Create designs with mechanical motion.
- Manipulate appearances and physical materials.
- Create detailed drawings.

360 scheduling and requirements.Fusion

Will have two google meet sessions per week to go over lessons and homework.

Required to have account with Autodesk .

Have the hobbyist fusion 360 installed or have the full version Fusion 360 if its available.

Student needs to attend all the google meet sessions and do all assign modules and homework to have the use of the full version of Fusion 360. If requirements are not meet, then license will be revoked.

Also it's highly suggested to have two monitors or large display to display Fusion 360 link from Aerotech 175 website and to download PDF files. Then another display to run Fusion 360 software.

System requirements for Autodesk Fusion 360



Operating System

Apple® macOS macOS 12 Monterey

macOS 11 Big Sur

macOS 10.15.7, or newer, Catalina (until March 2023. More details)

Microsoft® Windows® Windows 11

Windows 10 (64-bit) Version 1809 or newer (1803 and older supported until March 2023. More details)

Windows 8.1 (64-bit) (until March 2023. More details)

CPU Type

x86-based 64-bit processor (for example, Intel Core i, AMD Ryzen series), 4 cores, 1.7 GHz or greater; 32-bit not supported

Apple silicon processors require Rosetta 2 - see this post for more information.

Memory

4 GB of RAM (integrated graphics recommend 6 GB or more)

Graphics Card

DirectX11 (Direct3D 10.1 or greater)

Dedicated GPU with 1 GB or more of VRAM

Integrated graphics with 6 GB or more of RAM

Disk Space

3 GB of storage

Display Resolution

1366 x 768 (1920 x 1080 or greater at 100% scale recommended)

Pointing Device

HID-compliant mouse or trackpad, optional Wacom® tablet and 3Dconnexion SpaceMouse® support

Internet

2.5 Mbps or faster download; 500 Kbps or faster upload

Dependencies

SSL 3.0, TLS 1.2+, .NET Framework 4.5 or newer required to submit crash reports

Recommended specs for complex modeling and processing

CPU Type 3 GHz or greater, 6 or more cores

Memory 8-GB RAM or greater

Graphics Dedicated GPU with 4 GB or more VRAM, DirectX 11 (Direct3D 11 or greater)

SIGN UP AND CHECK OFF SHEET
For Autodesk Fusion 360 Course -
Introduction to 3D Modeling for Manufacturing

Name of Student _____
Last First Middle

Email _____

Phone _____

EAA Chapter 175 Member YES NO



Check off Sheet that needs to be done before class starts.

Cut and detach.

1. Sign up for course. Fill information on form above and detach. Give form to any EAA Chapter 175 officer/director. Email will be sent to you on confirmation.
2. Make account with Autodesk. Here is link to create account with Autodesk.
<https://accounts.autodesk.com/>
3. Make sure you have system requirements for computer for Fusion 360. Here link of requirements.
<https://knowledge.autodesk.com/support/fusion-360/learn-explore/caas/sfdarticles/sfdarticles/System-requirements-for-Autodesk-Fusion-360.html>
4. Once you have account and computer with system requirements, now you have a choice. You can download the hobbyist Fusion 360 version by following the instructions below or you can get the full version of Fusion 360 if available. Need to contact software manager to check out for availability. For hobbyist Fusion 360 go to Autodesk website and go to section on the page that reads "Register for a personal license ". Here is a link to website.
<https://knowledge.autodesk.com/support/fusion-360/learn-explore/caas/sfdarticles/sfdarticles/How-to-activate-start-up-or-educational-licensing-for-Fusion-360.html>
5. Now you should be already to start the course . You can look over the course on this link and go first module (Getting Started) to down load resources. Here is link to the course.
<http://www.aerotech175.org/introduction-to-3d-modeling-for-manufacturing/>

Any questions please contact Mike Newman(instructor/software manager) by email " solar1mike@yahoo.com"