# Fusion 360

**SLQ Wiki Fabrication Lab 2025/10/20 15:19** 

## Fusion 360

Fusion 360 is and Autodesk product for CAD CAM. It is free (as in beer) for students, educators and start-ups. Fusion360 is used by The Edge programming staff when parametric design is an important requirement of a delivery or engagement. We use parametric design to re-use designs, mainly changing material dimensions (thickness), tooling and design scaling.

For example of internal work done with fusion 360 check out.

- Milkcrate Shelving
- Asgard Stool
- component draws

#### Installation

Fusion 360 can be installed either with a web streamer (a small application that then downloads the full install) or from a full download. As the app is updated frequently, and most updates break backward compatibility we often have installs that are out of sync, leaving files un-openable. Fusion 360 by default also installs for **one user** only.

For these reasons we recommend using the full *admin* install, and download the latest version which can always be found here<sup>1)</sup>. Install it from an admin command prompt with;

"Fusion 360 Admin Install.exe" --globalinstall

## **learning Fusion**

Autodesk has a comprehensive curriculum for learning fusion360.

### **Tips and Tricks**

#### **Parametric Design**

Parametric design is a powerful tool for keeping your designs flexible enough to deal with changes dimensions \_\_after\_ your design is functionally complete. For example, designing a table to cut from a single sheet of ply mean that the design takes into account the thickness of the sheet. But what happens if your change ply stock? If your material thickness<sup>2)</sup> is parametric, you can change your sheet thickness and the design will update accordingly.

The tips to successful parameter usage, that is avoiding the dreaded "Over Constrained" errors.

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Make sure that your parameters are controlling only a single dimension at a time. For example - a rectangle that has a length, width is fine. But if you add a curve with a radius that intersects two edges, and then dimension that curves radius... you have a problem because the radius limits how far apart the sides can be.

1)

For more detailed instructions on lab usage consult this document.

advanced\_fusion360\_lab\_installation\_instructions\_en-gb.pdf

2)

and dependent measurements