



# Fusion 360

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# Fusion 360

[Fusion 360](#) is an 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. Fusion360 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.

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