3D Printers

We have both Fused Deposition Modeling (FDM) and Stereolithography (SLA) printers at Makersmiths.

Please read and follow the guidelines on this page and in this section to help us keep them running.

Red Tool Training

There are 2 separate Red Tool classes for 3D Printing at Makersmiths, one for FDM printing and one for SLA printing. These classes must be completed before you may use the printers on your own. Classes can be found on the Event Calendar. These classes will be taught at least once a month.

Safety Rules

Use care around heated beds and hot ends	3D printers use heat had have HOT parts
Watch your spool for jams	Jammed filament ain't no fun for nobody.
When things go horribly wrong tell someone	If we know what happened we have a better chance to fix it...or prevent it next time.
Use care around heated beds and hot ends	3D printing uses heat. Heated beds can be up to 100°C and hot ends up to 250°C. If not careful you will get burned.
Do not attempt to adjust the printers	If you don't know what you're doing you can cause more harm than good. Contact the steward or post your issue to the #3dprinting Slack channel.
Do not change the printer's EEPROM settings	Your changes may work for you but mess it up for others.
Keep metal objects (spatulas, pliers) away from the nozzle	Metal tools can scratch or damage soft brass print nozzles and other parts.
Cancel your job immediately in case of unusual noises or smells!	Use common sense...if it sounds like ball bearings in a washing machine then it's probably not working right.
When (not if) the printer breaks...	• Unplug it • Place a note on it • Let us know through the #3dprinting Slack channel • ...and don't sweat it. Printers break all the time.

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To Get Help

Post a message to the #3dprinting Slack Channel.

Direct message to the 3D Printing Steward (sometimes they also have their phone number in slack to call)

Troubleshooting

3D printing can be difficult. If you experience problems there are folks who can help. First, review the guides here and for the specific printer. If you still have a problem, post to the #3dprinting Slack channel. Even if you find the solution, let us know, so that we can be aware that it might be an issue for others, and try to prevent it from happening again.

Software

Ultimaker Cura

Ultimaker Cura is the slicer of choice for many open source-based 3D printers for it's relative ease of use

Skill Level	Novice to Advanced
Support formats	**input**: .stl, .obj, .3mf, .gcode, .g, .x3d, **output**: .stl, .gcode, .3mf, .ufp, .obj
Download	https://ultimaker.com/en/products/ultimaker-cura-software

Elegoo Cura

Elegoo has their own fork of Cura tuned for their printers.

Skill Level	Novice to Advanced
Support formats	**input**: .stl, .obj, .3mf, .gcode, .g, .x3d, **output**: .stl, .gcode, .3mf, .ufp, .obj
Download	https://www.elegoo.com/pages/3d-printing-user-support

Cura LulzBot Edition

Cura for LulzBot is an open source slicer based on Ultimaker Cura and tuned for LulzBot machines.

Latest version is 3.6.37, but there are issues with the installer. Install 3.6.23 first, then install 3.6.37

Skill Level	Novice to Advanced
Support formats	**input**: .stl, .obj, .3mf, .gcode, .g, .x3d, **output**: .stl, .gcode, .3mf, .ufp, .obj
Download	https://www.lulzbot.com/support/cura

PrusaSlicer

PrusaSlicer is open source and can be difficult to use. For advanced users it has fine-grained control and can produce excellent prints.

Skill Level	Intermediate to Advanced
Support formats	**input**: .stl, .obj, .amf, .3mf **output**: .stl, .gcode, .amf, .3mf, .obj
Download	https://www.prusa3d.com/page/prusaslicer_424/