3D PRINTING SOLO

Revised: 8/28/17

Requirements:

Library patrons are allowed to 3D Print at their own discretion without supervision only if they have a 3D Printing Certification sticker. To get certified for un-monitored independent 3D printing you must:

    1) Be a Westchester Library System patron
    2) Attend at least one 1-on-1 3D Printing Session
    3) Sign and hand in to a librarian, or submit in the online test, the library's 3D Printing Policy
        http://katonahlibrary.org/test/wp-content/uploads/2014/07/3D-Printer-Policy-12.pdf
    4) Taken and passed the online test

Things to Watch Out For:

Generally if you use the 3D Printing Checklist there should be no issues during a print, but especially for a long print that would be arduous to redo, it is good to baby sit it and watch out for the following:

1. Watch the first 2 layers or so to ensure your print adheres properly to the build plate. If it does not adhere and starts to "spaghetti out," print with a raft next time.
2. Listen for the creaking "tick tick" that occurs if the filament spool tangles. As soon as you hear it straighten out any tangles on the spool.
3. Every now and then look and check that plastic is coming out of the extruder as it prints.

By keeping an eye on the print, even if a print fails, you might catch what caused the error (ex. failed bridging, failed overhangs, or warping). This way you can ensure next try it does not happen.

If you see something start to go wrong:

| 1 | **Quickly** tap the left arrow once to bring up the menu. | 2 | Use the down arrow to select "Change Filament." | 3 | Select "Change Filament." by pressing the red M button in the middle |

This will pause the print, move the extruder out of the way, and give you time to assess the situation. If done quickly enough, you can even recover a print that would have otherwise failed.

Katonah Village Library ◊ 26 Bedford Rd, Katonah ◊ katonahlibrary.org ◊ 914-232-3508 ◊ katref@wlsmail.org

Troubleshooting Problems

When printing:

Stopped extruding:

Check if the filament got tangled. If so, untangle it. Then press "Load Filament" and check that plastic will now flow out of the extruder. Then resume. If not fixed, try removing and reloading the filament. Then press "Load Filament" and check that plastic will now flow out of the extruder.

When changing filament:

Cannot load filament, filament won't flow out of nozzle

Unload filament. Snip the end of the filament with wire cutters at a 45 angle. Try reloading.

Cannot unload filament

Try loading and check that filament can still flow out of the nozzle. Then try unloading again. If this fails, when unloading press the plunger lever to the right of the extruder down and gently tug the filament until the filament is released. If this does not succeed, a 3D Printing Instructor will need to be called in to fix the printer.

If your print fails

If for any reason the printer starts to "spaghetti out" this is an unrecoverable error. You must cancel your print as soon as possible in this situation to not waste plastic.

Why Did it Fail?

Printer stopped extruding for too long b/c:

filament was tangled:

If fixed quickly this will not cause the print to fail.

extruder clogged:

Most clogs can be fixed by unloading and reloading the filament

A serious clog may require the 3D printing instructor to cancel the build and unassemble the extruder to remove the clog.

Check the 3D Printing Checklist for issues in the 3D model that may have caused the print to fail. Take pictures or video documenting the print and consult the 3D Printing Instructor.

Safety

Never touch the extruder nozzle directly! Doing so can result in a skin burn. Use pliers or other implements to remove melted plastic if necessary. Do not dangle hair etc. over printer or it might tangle and result in injury.

Policy

Printer availability is not guaranteed unless the patron signs up for a time slot in person or over the phone. Overnight prints are not allowed.

It is the responsibility of the patron to ensure their print succeeds, and payment is expected for plastic used even if the print fails. Similarly, any damage to the printer itself is also to be paid by the patron. If a fatal error occurs, we cannot guarantee that you will be able to print again that same day. You may have to reschedule your print. This is left to the discretion of the 3D printing staff.