

## **Saxonburg Area Library 3D Printing Policy**

### **What is 3D Printing and how does it work?**

3D printing is the process of making a physical object from a digital model, also known as additive manufacturing. The Library is home to an Afinia H-series 3D printer which uses a process called Fused Deposition Modeling (FDM), in which a plastic filament is fed through a heated nozzle which melts the plastic. Computer-controlled motors move the nozzle around to create the shape of a layer, which hardens immediately. The object is then built layer by layer.

### **I want to use the Library's 3D Printer! Tell me what I need to do.**

Anyone with a fine-free BCFLS library card is welcome to use our 3D printer, but there are some steps you need to take beforehand.

1. Take an orientation class. E-mail [erin.wincek@saxonburglibrary.org](mailto:erin.wincek@saxonburglibrary.org) for details.
2. Create an object you'd like to print or download an STL file from a site like Thingiverse.com.
3. Sign up for a time-slot. 24 hours prior to your print session, you must e-mail a copy of the .STL file for the item you'd like to print to allow us to properly plan for your session. We will also review whether the item will work on our printer. We will e-mail you to approve your design. We must also know the color filament needed beforehand so we can properly prepare the machine for you. Currently the colors include: orange, green, white, clear, red, and glow-in-the-dark blue.

### **What can I print at the library?**

The Afinia has a printing space of 5" cube, so your item must be smaller than these dimensions. We suggest you start small to learn the process and grow from there. You may never print a weapon or part of a weapon.

### **What software do I need to design my 3D object?**

Any 3D drafting software will work, as long as you can convert the file to .stl format before you send it to the library. You may download an .STL file from thingaverse.com to print, or may create your own .STL file using Trimble Sketchup, TinkerCad, or AutoDesk123D. You must make sure to "close" your design after creating your own design to ensure proper

### **What is the cost for printing?**

3D Printing at the Library is free for your first print. Each additional print costs just \$.20 cents per gram and will help the Library pay for additional filament and machine maintenance. A digital scale is on site to weigh your printed item.

### **How long will it take to print my item?**

It depends. Items can take anywhere from a few minutes to several hours to print, depending on the complexity and size of the project.

**Do I need to be present for the entire printing session?**

No, but it is suggested you periodically check in on your item as errors can occur. If an error occurs, we cannot guarantee that you will be able to print again that same day as another time-slot may be scheduled. You may have to reschedule your print. This is left to the discretion of the Library Director.

**How often may I print?**

You may print once a month during our initial introduction of the machine. If you would like to print more often, you may sign-up for a cancellation waiting list. If there is a cancellation or an unfilled slot we will contact you.

**How old must I be to use the printer?**

Anyone can use the printer. Children 12 years and younger must be supervised by a caregiver.

**Is 3D printing dangerous?**

No, but parts of the machine get quite hot. You may not touch the black printing pad or the nozzle if the machine is on. The Library accepts no responsibility for injury that occurs while 3D printing.

**You may not touch the 3D printer after the printer initializes or is in use. After the item prints, the staff will help you remove the item from the print platform, and they remove the item from the circuit board.**

**I agree to abide by the Saxonburg Area Library's 3D Printer Policy. My signature below recognizes that I have read all of the above items. I understand that my non-compliance with any of the above items will result in my banishment from using the printer permanently, or at the discretion of the Library's Board of Trustees.**

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_