

What is 3D Printing?

3D printing is the process of making a physical object from a digital model. Filament (usually plastic) is fed through a heated nozzle where it is melted and then deposited by computer controlled motors that move the nozzle around to create the shape of a layer which hardens immediately. Multiple layers are deposited to create the object. It might take a few hours to make a small object.

3D printing empowers people to engage in creative learning, inspiring their interest in design and problem solving. Many in the industry are predicting that in 10 years, 3D printers will be as common as desktop printers are today. 3D printing is also fundamentally part of a larger trend in libraries, from having materials for everyone, to helping everyone be able to do something.

What Can I Do with a 3D Print?

You can build any three-dimensional (3D) object you can imagine such as jewelry, home appliance parts, toys, or phone accessories. You can even create a prototype of a new idea for a product or a model for a presentation. The possibilities are endless and limited only by the size of your imagination and print bed.



Funding for our
3D printer was provided by
The Friends of the Library
of Upper St. Clair.

Join the Friends to
help support this and other
new initiatives at the library.

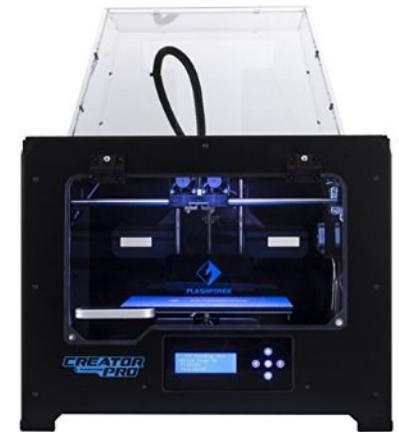


| www.twpusc.org



Printing

@



1820 McLaughlin Run Road
Upper St. Clair, PA 15241
412.835.5540 twpusc.org

Policies

- Library patrons with a library card in good standing may submit designs for printing. (Please see back page for submission process.)
- The library reserves the right to refuse any 3D print request. The printers may only be used for lawful purposes. Users will not be permitted to create material that is:
 - a) In violation of copyright, patent or trademark protection.
 - b) Inappropriate in the library environment, e.g., weapons or obscene objects.
- Print jobs will be scheduled during library hours when staff are available to monitor the process.
- A \$3.00 setup charge and \$1.00 an hour of print time charge will be assessed.
- Completed jobs must be paid for and picked up within 7 days.

Procedures

Design Creation

- Any 3D drafting software may be used to create a design as long as the file is saved in .stl or .obj file format (try tinkercad.com).
- Digital designs are also available from various file-sharing databases (try thingiverse.com).
- Library iPads may be used in the library to create a design with the 123D Design app.
- Maximum design size is 6x6x6 inches.
- Two color designs are possible. Color choices currently include blue, green, purple, red, orange and yellow.
- Maximum print time is 8 hours.

Default Settings

- Plant-based plastic PLA (polylactic acid) filament
- Support material generated automatically
- Layers set to 3 on all sides
- Infill at 20% in fast honeycomb
- Print speed 3600

Design Submission

- Send the downloaded file to uscstech@einetwork.net with your name, library card number, phone number, and filament color choice.
- You will be notified via email as to the projected cost and a scheduled print date and time.



3D Design Samples