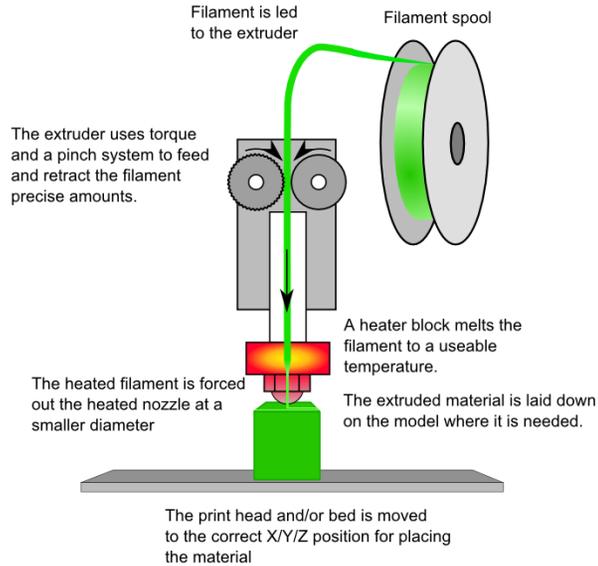


How it Works

Fused Deposition Modeling

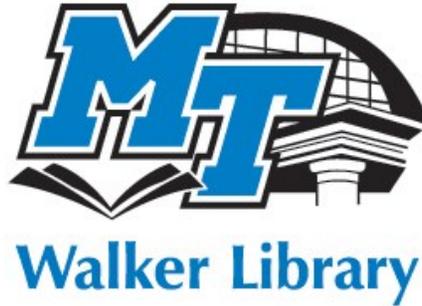


To perform a print, the machine reads the design from an .STL file and lays down successive layers of melted plastic to build the model from a series of cross sections. These layers, which correspond to the virtual cross sections from the CAD model, are joined or automatically fused to create the final shape

Learn More

We are happy to demonstrate 3D printing for groups or individuals.

Contact us to discuss demos, workshops, or projects.



James E Walker Library

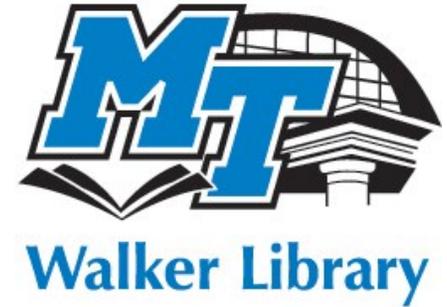
[http://library.mtsu.edu/
techservices/3dprinter.php](http://library.mtsu.edu/techservices/3dprinter.php)

<http://goo.gl/ELXIKq>



Valerie Hackworth

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3D Printing



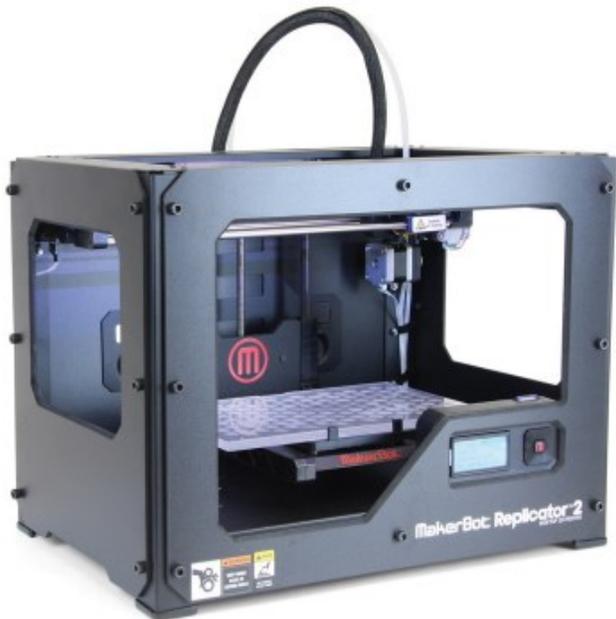
3D Printing is a process to create objects. These objects are built by depositing material one layer on top of next with precise positioning.

What kind of 3D printer does the Library use?

The Library's 3D printer is a MakerBot Replicator 2[®]. The Replicator 2[®] has a steel chassis and body panels made of PVC plastic. It includes a glass build plate and uses PLA filament.

Materials

The Library's 3D printer uses plastic made from corn starch called Polylactic Acid (PLA). Because PLA is plant based, it biodegrades over time when exposed to continuous moisture. You can view available colors on our display swatch ring.



Download Models to Print

<http://www.thingiverse.com> is an awesome source for 3D models intended to be printed.

Design Your Own Models

You can use any 3D modeling software – 3ds Max, Blender, SolidWorks, Tinkercad, AutoCAD, Google ScketchUp, etc. As long as it can export the model to an .STL file.

Limitations

Failed prints are common. Maximum size is 6x6x6. We can only print jobs in one color at this time.

We only accept .STL files. Files must be on a flash drive.

We do not edit your model except to downsize to the maximum size. We do not clean your model after it is completed.

The printer cannot print layers without material below for support, it can only build up at a 45 degree angle. Talk with us to improve the chance of success when 3D printing your models.

Pricing

We charge \$4.00 per hour. We charge a minimum charge of \$4.00 per print job. Academic jobs are \$2.00 per hour.

The Dean of the Library maintains a Discretionary Fund. If you have designed your own object, modified and existing object design, or are printing an object for a class you can apply for a free print job.

Timing

One hour or more is common for small objects. For multi-part or large objects it may take days. Depending on the number of print jobs in the queue, we aim to complete a job within 7 days of drop-off. We will contact you by phone or email when your job is completed.

Print Projects

Mathematical equations, fashion, mechanical, figurines, maps, art sculptures, and enclosures are just a few types of projects we have already printed. The technology is not limited to a particular industry or area.

Academic jobs are given priority.