

**FAQ**[What is 3D printing?](#)

3D printing is the process of creating physical objects from a three dimensional digital model. This technology has been around for awhile, but typically used by engineers and industry designers. 3D printing technology is quickly evolving and therefore public printing is becoming more common.

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[What is Cura?](#)

[Cura is the software developed by Ultimaker](#) to make 3D printing as easy and streamlined as possible. It includes everything you need to prepare a 3D file for printing and to print it. This software converts the .stl files into .gcode (which is what the printer reads).

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[How long will my print job take?](#)

Printing a 3D object is not the same as printing something on paper and is not an immediate process. As a 3D print starts with a bottom layer and works its way up layer by layer, an average object can take between 4-5 hours to complete. Loading a 3D object file into Cura will give an estimated printing time based on the size of the object.

Beyond this, it is difficult to estimate a time due to a number of factors:

- number of requests in the queue
- number of prioritized requests in the queue
- processing time
- size of individual print jobs
- hours the Centre is open (we cannot print outside of regular hours)
- unforeseen technical issues and repairs

You can always email Lyons ([lyons.newmedia@gmail.com](mailto:lyons.newmedia@gmail.com)) about your request. While an estimated time cannot be given, you may find out how large the backlog is at the current time.

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[What happens after I submit my request?](#)

Your request submission is placed in the **processing queue**. When your request reaches the top of the queue,

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staff will open the .STL file in Cura to examine the object. Staff look at different criteria including, but not limited to:

- requested size of object
- the printing time required for that sized object
- the type of object
- whether or not it is a viable print (does it have a solid base to build from or is it rounded on all edges; does it have any 'overhang' that would necessitate printing with support structures, etc.); if there are any issues with the request, staff will contact you via email for clarification or to deny the object if it's just not a viable object for printing. If there are no issues, the request goes into the **printing queue**.

Once in the **printing queue**, it's just a matter of getting to your print request in sequence and making the print attempt. Should it fail, you will be notified via email of the failure and what happened. At that point, you can choose to submit another request for a different object, if you wish.

If the print job succeeds, you will be notified via email that it is ready for pick up. You will be asked to bring your valid McMaster ID card with you.

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### [What happens if I don't pick up my finished print job?](#)

Due to the large number of print requests that we receive, we cannot hold onto a finished object indefinitely. You will receive an email once your print job is complete with a deadline date for pick up (typically a month). Staff will send out a reminder email if the object has not been picked up in a few weeks time with a final date.

If an object has not been picked up by the deadline, we will recycle the object.

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### [Can I choose the colour of PLA for my print?](#)

We cannot change the colour mid-spool. Once a colour spool is installed, it remains on the printer until it is finished. With the number of print requests, it would take too much time to change the colours for every print job.

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### [What do I need to remember when submitting an object?](#)

- The object needs a large enough base so it does not fall over part way through printing.
- Are there any "overhangs" or pieces that stick out? Things like arms that stick out and hang from the main area may not print. Make sure that there is a support for this section. The printer can't print something in mid-air.
- Some designs may have too much detail for the printer to print well.
- If the design is too stringy or thin, it will not print correctly.

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### [Is PLA the right material?](#)

- Our printer uses PLA only. Some designs are made for other materials.
- PLA is a biodegradable polymer derived from renewable resources, such as corn starch, and does not produce UFCs (Ultrafine Particles)

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### [How long will it take to print?](#)

- Printing time depends on a variety of factors: the object, how large it is, how intricate the design, amount of infill used, etc.
- For general printing - time should not exceed 5-6 hours
- For course/research work - time should not exceed 8-9 hours
- We cannot print outside of our business hours
- [Download Cura](#) (it's free!) and load your file in it to see how long the print job will take

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### [Is there a limit on how many objects I can print?](#)

- We will print up to 5 object requests from one person at a time; if we receive more than this, we will hold onto the subsequent requests until the first 5 are printed and picked up, and so on.
- Exception: course-related print jobs are not limited in this manner.

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