3D Printing + CAD

Resources

Submit a 3D Print

The Launch Pad has two 3D printers (a Bambu P1S and a Bambu H2D) available to members for learning and entertainment purposes. Anyone with an Illinois library card in good standing, registered at the Indian Trails Library, may submit **one** 3D print as their weekly supply. Submissions enter a queue and **staff operate the machines.** Print requests may take **up to 10 business days** to complete. See *Key Points* for important details.

Send 3D print submissions as .stl or .obj files via the 3D Print Form Button on itpld.org/3d-printer or navigate to the Launch Pad webpage on **itpld.org** (via "Services" tab) and scroll to 3D Printers under "Tools and Equipment".

Key Points

- **Cardholders must use their own card for their print.**
- **Limits:** Print time must be **under** 10 hours, **smaller** than 8 inches, and **no more than 100 grams.** *This includes brims and supports.* The Launch Pad will **not** resize prints.
- Prints are **single color** PLA (polylactic acid), ~0.20mm layer height.
- You will receive an email when your print is complete **or** if there are print or file issues.
- Please pick up your print as soon as possible; **prints left for over 3 weeks will be disposed.** *Please refrain from submitting further prints until your current job has been picked up and your supplies reset.*
- Supplies are deducted upon completion of the print, **not** when the job is submitted.

Finding and Creating Models

The Launch Pad does not provide model files. Models must be created with PLA fused deposition modeling (FDM) printing in mind. See **itpld.org/3d-printer** for details.

For beginners interested in making their own models, TinkerCAD is a great way to get started. It has built-in tutorials and is entirely browser-based. You can sign up for a free account on **tinkercad.com**.

You can download premade 3D models from **printables.com** and upload them to TinkerCAD for resizing. Under 3D model searches, on the left side, you can scroll down and filter results.
We recommend **excluding** AI content, and filtering G-code for **PLA** at **no more than 10 hrs and 100g.**

To preview time and weight estimates, download Bambu Studio and follow the Quick Start Guide at:
wiki.bambulab.com/software/bambu-studio/studio-quick-start

During **Setup**, select Bambu P1S and Generic PLA.
After completing *Filament Selection*, skip to the step for *Create a new project* under the section **First Print.**
Slice Plate will be the last step, where you will see the print estimates.

Send 3D print submissions through the form as stated above *Key Points*.

FAQ

What can be printed?

Suitable prints include (but are not limited to) basic prototypes, small novelties, simple decorative items, many "print-in-place" models, and short single-walled vases. We will **not** print any weapons or weapon-like models. PLA filament is ***not*** suitable for anything that will experience significant force or exposure to heat.

Can I send a picture/drawing/jpeg/pdf/svg/etc. to print?

No. The 3D printers can only work with .obj or .stl files.

Can the Launch Pad print multiple copies of my file at once?

No. Any print requiring a duplicate must either already contain the duplicate in the model file (still within our printing limitations) or be submitted again.

How do 3D prints work with free supplies?

A print submission always counts as one supply. If a print goes over our material limit, it will not be printed. Supplies are not deducted **until the print is finished**.

How do I know how big my model will be?

Submissions are printed at default size. A model may be sliced to preview estimates, as stated on the reverse side of this guide. To change its dimensions, TinkerCAD may be used. If a model is too big, we will not print it, and your submission will be cancelled. **A new form submission must be filled with a resized file**.

What if I can't install Bambu Studio?

If you are unable to download Bambu Studio, you may use **grid.space/kiri**. Be aware that this is a limited, browser-based slicer that may freeze if a model is too big or complex. It may also underestimate significantly. Under **Setup**>**Machines**, select device Bambu.P1S. Go to **File**>**New**, then **File**>**Import** to add your model.
In the left menu, under **Support**, enable *Automatic*. At the top, hit **Slice**. After loading, hit **Export** to see estimates.

What are print supports and brims?

If a print isn't making enough contact with the build plate, it can come loose and slide around while printing. Brims increase the surface area. Additionally, the printer cannot print in mid-air. If there is an overhang, the printer can build support structures. Supports and brims can be removed with pliers.