

3D Printing Quick Guide

Interested in 3D printing but don't know where to start? This short guide includes resources on how to find existing files online, how to create your own designs using modeling software, and how to submit your files to the CSUMB Library Makerspace for printing.

Before proceeding, please be sure to read the [Makerspace 3D Printing Policies](#).

Where can I find ready-to-print 3D models?

Several sites offer designs that are free to download. Visit the sites below to search for a particular design, or browse to look for ideas for your own designs.

- [Thingiverse](#)
- [PrusaPrinters](#)
- [YouImagine](#)
- [MyMiniFactory](#) (also includes paid files)
- [Pinshape](#) (also includes paid files)

Before downloading, check the license terms for information about what you can and cannot do with the file. Many creators include a [Creative Commons license](#) with their work, the terms of which vary depending on the specific license selected.

How do I create my own file for 3D printing?

If you're new to 3D modeling and printing, [Tinkercad](#) is a great place to start. Tinkercad is a free, web-based program with an intuitive interface and easy-to-use features. Create your own design by arranging, combining, and editing basic geometric shapes.

After signing up for an account, we recommend completing the starter lessons to learn the basic design functions of the program. For guided instructions and project ideas, please see our Makerspace virtual workshops:

[Insert workshop links here]

Additional 3D modeling programs available for free:

- [Blender](#)
- [Fusion 360](#) (Education version)
- [Daz Studio](#)
- [Sketchup](#) (Free version)

Which 3D printers do you have in the Makerspace?

- Type A Series 1 Pro
- Qidi X-one2
- Makerbot+
- Ultimaker 2+

Please note that due to occasional technical and maintenance issues, we can't guarantee the availability of any particular printer.

Filament colors:

Type A Series 1 Pro, Qidi X-one2, Makerbot+

(1.75 mm): black, blue, bright blue, white, gray, dark gray, red, green, bright green, yellow, purple, turquoise, orange, fluorescent orange, pink, copper, silk copper, silver, silk silver, gold, silk gold, wood, glow in the dark

Ultimaker 2+

(2.85 mm): black, blue

How do I submit my files for printing?

When you have finished a design and are ready to print, please export/save it as a **.STL** file. Send your file as an attachment to makerspace@csumb.edu. Designs with multiple parts that need to be printed separately should be sent in a zip file. Include "3D Printing Submission" and your name in the subject line. In the body of your email, please indicate the filament color you would like to print with, as well as a backup color in case we don't have your first choice. Please specify size of finished prints (include longest edge and/or full X Y Z or length, depth, width). All designs are printed with PLA filament.

When your design is ready to print, we'll load the STL file into a program called a slicer, which will convert it into machine readable code. For more information about slicers, please see [3D Slicer Settings: Best Practices](#). Please note any additional specifications, such as layer height and fill density, in your email. Otherwise, your design will be printed using the slicer's default settings.

The slicer will give us an estimate of how long the print will take. If your design is projected to take longer than four hours, we may contact you to discuss resizing for a shorter print time.

Can I use the 3D printers myself?

Currently, only trained Makerspace staff are permitted to operate the 3D printers. If you are interested in learning more about how they work, you can schedule a demonstration by emailing

makerspace@csumb.edu. Please note that we have limited staffing and may not be able to accommodate all requests.

We also plan on holding 3D printing workshops in the future, so please check the [Makerspace website](#) regularly for news and updates.