



3D PRINTER PREP

3D MODELING SOFTWARE

We recommend these programs, which are available on computers in the VRC, and Bartlett labs 301, 401, and 401:

- Sketch Up
- Rhino

There are many other 3D programs you can use, just make sure that your design will export as an .Obj or .STL file.

FILE REQUIREMENTS:

Name your file: Lastname_Firstname

Export your model as an .Obj (object) or an .STL file (stereolithography) from your modeling program. Bring original file AND .Obj or .STL file/ Have your files ready before the scheduled print session.

APPOINTMENTS

Two Appointments are required:

1. Consultation
 - A 15 minute consultation is required to determine specifications and print time before you can schedule a 3D Print appointment.
2. 3D Print
 - A 30 min print appointment will be scheduled during the consultation and the file will be finalized and printed.

PLAN AHEAD

In the computer, your model exists in a world without gravity or physics. To successfully print your object, you'll need to keep the material's characteristics in mind.

1. Make sure the object is water-tight.
 - No gaps or holes and parts are flush.
2. Make sure the object can exist in 3 dimensions.
 - Forms extending into space won't fall off.
 - Weight distributed to prevent collapse or toppling.
 - Pieces won't break off.

Export your model as an .Obj (object) or an .STL file (stereolithography) from your modeling program.

DOWNLOAD MAKERBOT SOFTWARE

Go to <https://www.MakerBot.com> to create a personal account.

- Go to the MakerBot homepage and under the "Products" tab, select MakerBotPrint.
- Download the software.

Next, you will be prompted to make a Thingiverse account.

- Sign in with your MakerBot account information and verify your email.
- Explore the Thingiverse site.
- Familiarize yourself with the settings, account, things, and apps.

PRINT & LASER APPOINTMENTS

Monday - Friday
9a - 11a & 12p - 4p
Monday & Thursday
6:30p - 8p

OPEN

Monday - Friday
8a - 5p
Monday & Thursday
6:30p - 8:30p

405.744.6017
osuartvrc@okstate.edu



3D PRINTER PREP CONTINUED

CHECK / FIX YOUR FILE WITH THINGIVERSE

Upload your .STL file to the Thingiverse website.

1. Create tab.
2. Upload a thing.
3. Follow guided instructions.

Upload your .STL file to the Thingiverse website.

1. Apps.
2. Tools and utilities.
3. MakePrintable.
4. Launch app.
5. Click "Repair" to load your object in the app.
 - Problem areas in your object will appear.
6. Click "Next" and the app will attempt to make corrections to the object in a cloud server.
7. Thingiverse will show you the fixed model, which you can then choose to either save or download.
8. If errors still exist, correct them in Rhino or SketchUp.

Thingiverse will show you the fixed model, which you can then choose to either save or download.

COME SEE US

Make a consultation appointment if you have questions or to schedule printing if you are ready.

What to bring:

- Working File
- Original .STL
- Repaired .STL
- Recommended print settings created in "Prepare Print"

PREPARE PRINT

Open MakerBot software and set up the file.

1. Open MakerBot Print.
2. Add your model.
3. Check the scale of the object.
 - You can do this with one of the icons located on the right side of your screen.
 - The VRC will only print a maximum size of 10" L x 8" W x 6" H (254 x 203 x 152mm) volume scale.

Arrange model on plate.

This places the model flush to the print plate.

Add unconnected printer.

Replicator 5th gen.

Bring print settings with you.

Located on the right side of your screen.

1. Select "Extruder Type: Smart Extruder+"
2. Go through and set the print settings.
 - We recommend the "MinFill" setting.

Estimate and print preview.

How much material is it using? _____ g

How long will the print take? _____ hr _____ min

Print Mode: _____ Support: _____

Custom: _____

PRINT & LASER APPOINTMENTS

Monday - Friday
9a - 11a & 12p - 4p
Monday & Thursday
6:30p - 8p

OPEN

Monday - Friday
8a - 5p
Monday & Thursday
6:30p - 8:30p

405.744.6017
osuartvrc@okstate.edu