Lab 3D Printer Guide (DreamMaker Overlord (non pro edition))

If you want to use the Lab 3D printer, please follow these instructions:

Creating the 3D Printed Object:

1) Use a program like TinkerCAD or AutoDesk or anything else that you want to create your **.stl** or **.obj** file.

https://www.tinkercad.com/
https://www.autodesk.com/solutions/3d-modeling-software

Setting up Cura to Load Object to the Printer:

2) The printer that we have in the lab (**DreamMaker Overlord** to the right) cannot directly take these files. You must first convert it to a format that it can understand and use, and in this case it is **.gcode**.
3) Luckily we have a program that lets us do that for us; Cura!
    a. http://www.dreammaker.cc/?page_id=3943

Cura slicing software

Cura 14.6 OverLord version

Cura_V15.04.6-Windows

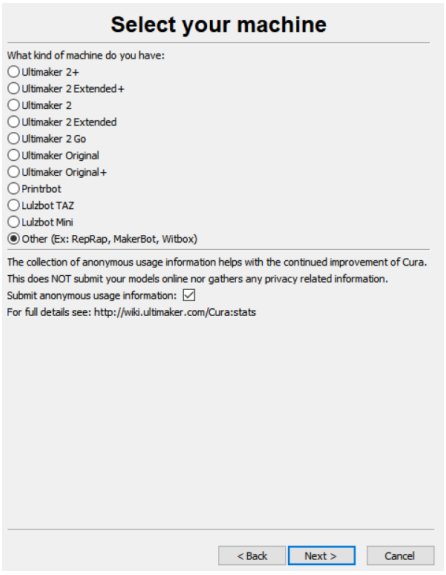
Cura_V15.04.6-MacOS

Cura_V15.04.6-debian_i386

Cura_V15.04.6-debian_amd64

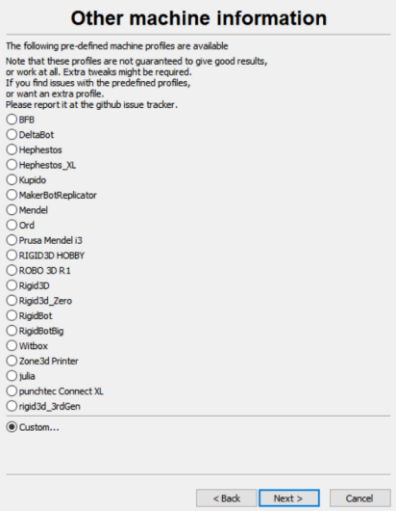
4) Choose the version that best fits the machine that you are using (ie. Choose Windows if you have a Windows machine, MacOS if you have a Mac, etc.)

Once you install Cura v15.04.6, it will guide you to a page to choose/set your machine. Once you reach this point, follow the upcoming steps **carefully**! If you do not, then your .gcode file may not work on the lab printer (different nozzle widths, speed, etc), and your print will **NOT** come out.

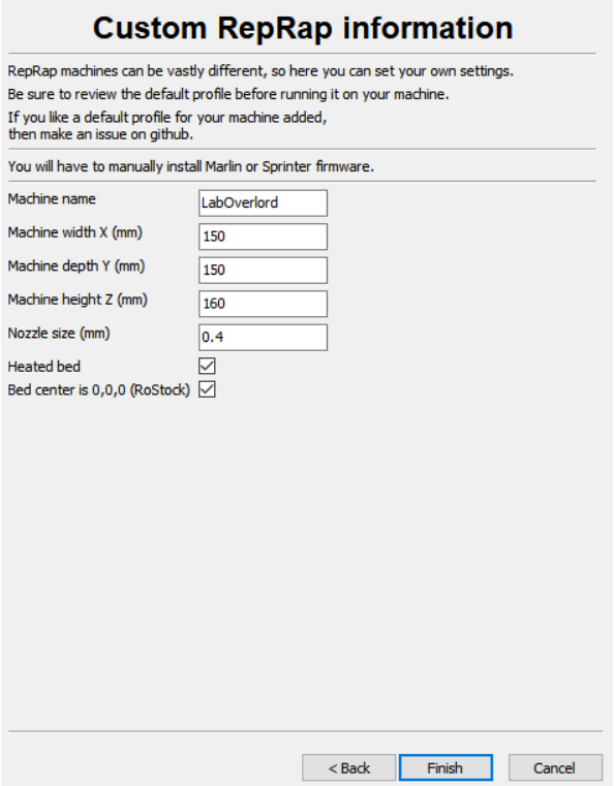


5) Choosing the machine: Be sure to choose “other” since we will be doing a semi-custom setup. Then click next.

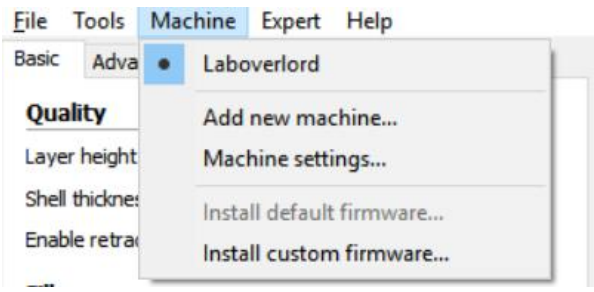
6) On the next page, click on custom and then click next.



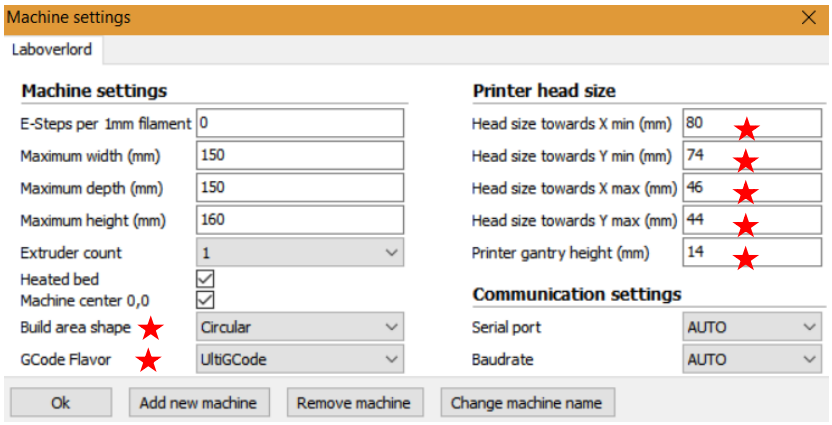
7) Now on this page, we need to set some different properties. Set the machine name to something like “Lab_Overlord” or “IEEE_Lab_Printer” or something else memorable that reminds you it’s the IEEE lab and not your personal or friends printer.
    a. Then set the machine width X (mm) to 150mm and the machine depth Y (mm) to 150 mm as well.
    b. Set the machine height Z (mm) to 160.
    c. Nozzle size (mm) should be 0.4
    d. Heated bed and bed center should both be checked!
    e. Click on finish after this.



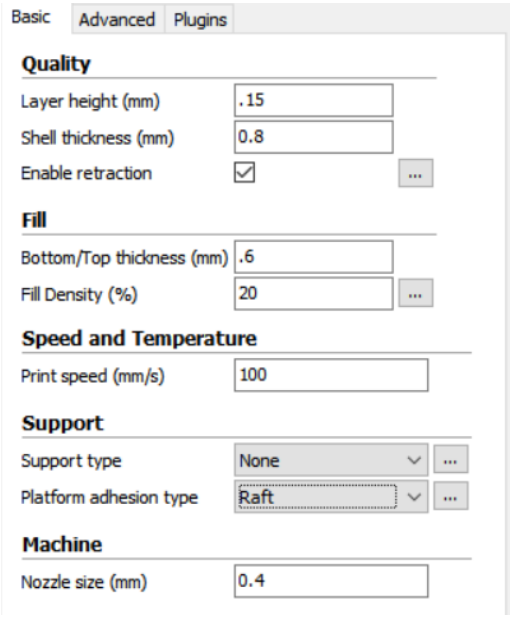
8) Next click on the “Machine” tab and click on machine settings in order to change some more Overlord specific settings.

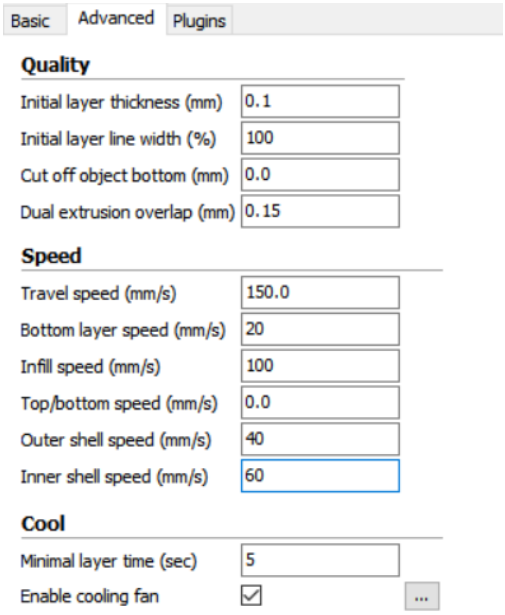


9) Change the properties with the red star next to them to the values shown here:
    a. Build area = circular
    b. GCode Flavor = UltiGCode
    c. HeadSize towards X min/max
    d. HeadSize towards Y min/max
    e. Printer gantry height



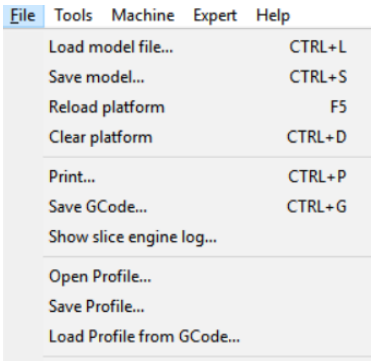
10) There are 2 types of settings for the prints, Basic and Advanced. These are the recommended basic settings (bottom left) and advanced settings (bottom right). While you can change them around a bit, like the fill density, it is recommended in general to not to.





Once you're done using Cura:

11) After you've finished making sure that your print uses the proper density and support type and such, go to "File" → "Save GCode".
12) Save the GCode to your laptop in some place that you can find it.



After this step, **STOP** and **CONTACT** an

IEEE Officer

(one of these folks: http://ieeebruins.org/about/officers/)

Steps for officers:

1) Take the GCode file and put it on the SD card available in the printer (looks like this:)
2) Put the SD card into the printer and follow the following directions to start the print: **http://www.dreammaker.cc/?page_id=4233**
3) Remember to clean out any previous builds off the plate!

If you or anyone else wants more information on the DreamMaker Overlord (cleaning, operating, setting up, etc), refer to the following page:
https://www.robotshop.com/media/files/pdf2/overlord_user_manual-english_version.pdf

Happy Printing! ☺