**3D Printer: Prusa Slicer Intro Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**NOTE:** Those of you have have 3D printers or significant previous experience please watch and listen and allow those who are new to this the opportunity to learn and experience. I would welcome any comments that you might have to improve this lab experience.

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|  | **TASK** | **Notes** | **Check** |
| 1 | **Download Another\_Hollow\_Cube.stl file**  This is the .stl file you will be working with today. The file is available on the github for the course in the 3DPrinters/stlFiles/test folder. Github will render the file so you can see it. The download button is in the small menu at the top right of the rendered page. Save it someplace on your computer. |  | ❏ |
| 2 | **Import Model/Basic Settings**  Add the Hollow Cube model to the build plate (add icon in top menu).  Set Basic Print characteristics:  **Print Setting:** 0.15 mm layer, Quality  **Filament:** Prusa PLA  **Printer:** Original Prusa MK3s & MK3S+  **Brim:** Turn on (instructor will help set brim)  Save Prusa Slicer file for future use.  Enter relevant data on Print Assessment sheet. |  | ❏ |
| 3 | **Place model on Build Plate**  Explore the positioning menus in Prusa Slicer  Drag model to different locations, rotate in different orientations, place flat on different faces. If things get out of hand delete and reload the model.  Eventually place model in location that is NOT the center of the build plate on one face. |  | ❏ |
| 4 | **Scale Print**  In the end we want to scale this model equally in all directions so that it is 20 mm on a side (starts at 30).  Begin by scaling the model by 50% in one direction only. Undo this step (go back to 100%).  Scale in one direction only by changing the length in the scaling window. Undo this step.  Lock the scaling so all axes scale the same and adjust (either by % or by length) until cube is 20 mm on each edge. |  | ❏ |
| 5 | **Slice the Model**  Slice the model and explore the various features of the print process.  Note the print time (either in the Legend or Sliced Info) and filament use on the Print Assessment sheet  If your print time is in the range of 20 min then you may proceed to the next step. |  | ❏ |
| 6 | **Export G-code/SD card**  Export the G-code to your computer. IF you are using a COCC lab computer email the file to yourself for future use. Add your initials to the file name without losing the rest of the info.    Get an SD card and dongle (if needed) and copy G-code to SD card. |  |  |
| 7 | **Return to beginning and create Gcode for the same model with following characteristics at a different location on the build plate (scaled to 20 mm on a side)**  **Print Setting:** 0.30 mm layer, Draft  **Filament:** Prusa PLA  **Printer:** Original Prusa MK3s & MK3S+  **Brim:** Turn on (instructor will help set brim) |  | ❏ |
| 8 | **Print from SD Card: .15 mm Layers**  Go to a printer, turn it on, preheat for PLA, unload the filament and reload with a new color.  Print a single file from your group. Use your notes from last week to guide you if needed. Make a habit of watching the print get started to assure there are no problems and to remove any nozzle drool if needed.  Remember to be present when the print finishes as a best practice. If you are there a couple of minutes before it finishes you will be able to watch the filament span the distance between the corners which will be instructive.  Remove print when complete. |  | ❏ |
| 8 | **Print from SD Card: 0.30 mm Layers**  Print a single file from your group (same PLA). It should feel more comfortable this time and it will be faster.  Remember to be present when the print finishes as a best practice. If you are there a couple of minutes before it finishes you will be able to watch the filament span the distance between the corners which will be instructive.  **Remove print when complete.** |  | ❏ |
| 9 | **Complete Print Assessment**  Complete the print assessment sheet for **each** of the prints. Part of the point is to notice how different or not these two prints are. |  | ❏ |
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