

# 3D Printer Class

## I. Introduction

- a. Poly Printer and its relationship to Makerspace
- b. Rules
  - 1. No Unattended prints, leaving the room is fine but stay at DMS.
  - 2. No printer maintenance ( adjusting the z height, removing the nozzles, flushing the nozzles)
  - 3. Be mindful of the Queue
  - 4. Weigh it and Pay it!! (make sure you include any support material.)

## II. 3D Models

- a. Thingiverse
- b. My Mini Factory
- c. Tinkercad
- d. .STL Finder
- e. Yeggi

## III. Approved Filament

- a. Polypirnters:
  - 1. ABS (Acrylonitrile Butadiene Styrene)
  - 2. Ninja Flex (with training)
  - 3.
- b. PrintrBot & Mendel 90
  - 1. PLA (Polylactic Acid)
  - 2. Wax
  - 3. Experimental Filaments

## IV. Loading the Filament

- a. Make sure the filament is clean (If you use your own make sure to keep it in a sealed plastic bag.
- b. Threading it thru the printer.
- c. Use the filament cutter on the roof of the printer
- d. When pinching the nozzle release use a pinching motion not a pushing motion)

## V. Kisslicer

- a. Open your .stl files (.stl files only)
- b. Orienting your file
  - 1. Scale by X

- 2. Inch VS MM
  - 3. Count
  - 4. Transform mesh
- c. Style
- d. Fast vs Precise
- e. Layer thickness on ART setting
- f. Infill levels
- g. When to use support and how to manage the support.
- h. Types of Support.
- i. Saving your Gcode
- j. What is Gcode.

## VI. Octoprint

- a. Uploading your gcode
- b. Preheating the printer
- c. Hotend vs Bed temperature
- d. Print, Pause, Cancel
- e. Removing your print.

## VII. Finishing up.

- a. Removing your print.
  - 1. Use spatula don't touch the print bed.
  - 2. Clean up area around your Print.
  - 3. If no one else is on the queue....print again....If there is a queue put your name at the bottom and weight for your turn again.

## VIII. Weight it and Pay it.

- a. If using Makerspace filament weigh the whole piece support material and all and pay your .10 a gram in the payment box.
- b. If you bring your own filament please keep it in a large plastic bag when its being stored or transported.