

# DESIGN

## WHEN DESIGNING OBJECTS TO BE 3D PRINTED YOU SHOULD:

- Make sure that your object is a watertight solid object
- Keep thickness above 2 mm for all parts to ensure printability
- Be mindful of which material you want to print in that caters best to your design

For more info on 3D Printing check out our guide online:



## PROS & CONS OF FDM, SLA, AND SLS PRINTING

	PROS	CONS
<b>FDM</b>	<ul style="list-style-type: none"> <li>- Fastest and cheapest</li> <li>- Good for rapid prototyping</li> <li>- Comes in many colours</li> </ul>	<ul style="list-style-type: none"> <li>- Lowest resolution</li> <li>- Limited by layer height printing method</li> <li>- Prone to breaking along print layers</li> </ul>
<b>SLA</b>	<ul style="list-style-type: none"> <li>- Higher quality and resolution</li> <li>- Available in clear, white, and castable wax</li> <li>- Prints as solid object</li> </ul>	<ul style="list-style-type: none"> <li>- Pricier than FDM</li> <li>- Longer printing time</li> <li>- Smallest build volume</li> <li>- Supports can be invasive and affect print surface</li> </ul>
<b>SLS</b>	<ul style="list-style-type: none"> <li>- Stronger than FDM or SLA prints</li> <li>- Does not require any supports</li> </ul>	<ul style="list-style-type: none"> <li>- Longest and priciest</li> <li>- Additional service fee</li> <li>- Only one colour</li> </ul>

# 3D PRINTING

# PRINTER & MATERIALS

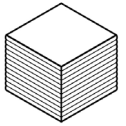
## FDM - FUSED DEPOSITION MODELING

### BAMBU LAB P1P PRINTER

- Build volume: 256 x 256 x 256 mm
- Default settings: 0.2 mm layer height & 15% infill

### PLA FILAMENT

- Available in black, white, red, blue, and random (unspecified)



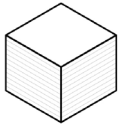
## SLA - STEREOLITHOGRAPHY

### FORMLABS 3 PRINTER

- Build volume: 145 x 145 x 185 mm
- Prints objects as solids

### STANDARD RESIN

- Available in clear, white & castable wax resin



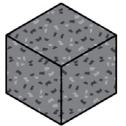
## SLS - SELECTIVE LASER SINTERING

### FORMLABS FUSE 1 PRINTER

- Build volume: 159 x 159 x 295 mm
- Prints objects as solids

### NYLON POWDER

- Only available in dark grey



**NONE OF OUR 3D PRINTING MATERIALS CAN BE RECYCLED IN MUNICIPAL WASTE MANAGEMENT SYSTEMS AND SHOULD BE DISPOSED OF IN YOUR HOUSEHOLD GARBAGE!**

# PRICING

## 3D PRINTING COSTS ARE CALCULATED BY MATERIAL:

(including any support material)

### FDM

PLA Filament  
\$0.15 per gram

### SLA

Standard Resin  
\$0.45 per gram  
Castable Wax Resin  
\$0.90 per gram

### SLS

Nylon Powder  
\$0.50 per gram  
+  
\$7.00 clean up fee

\*Weight estimates can be seen by importing your .STL into 3D slicing software

## AT THE D+TL WE USE THESE 3D SLICING APPLICATIONS:

### FDM - BAMBU STUDIO

Select your printer as the "Bambu Lab P1P 0.4 nozzle" and make sure that supports are enabled in the "Support" tab.

### SLA / SLS - PREFORM

- For SLA prints in standard resin, select "Form 3+"
- For SLS prints select "Fuse 1" as your printer

(both available for free for Windows and Mac)

## THE LAB ONLY ACCEPTS ONECARD AS PAYMENT

we recommend loading your OneCard beforehand which can be done in-person @ the OneCard office, @ the campus PHIL machines, or online. Link with this QR code:



# SUBMISSION & PICKUP

**SERVICE BUREAU SUBMISSIONS ARE COLLECTED VIA GOOGLE FORM. FIND THE LINK ON OUR WEBSITE OR SCAN THIS QR CODE**



## SUBMIT YOUR FILE AT LEAST 1 WEEK IN ADVANCE TO ENSURE YOUR JOB IS PROCESSED IN TIME

### WHEN SUBMITTING

- Submit your files at the correct scale in **mm as an .STL** and provide us with the measurements in mm of your 3D object.
- Double check that your object looks correct in the appropriate slicing software before submitting it to us.

### ONCE YOU SUBMIT

Your file gets added to the Service Bureau queue which staff tackle on a first-come, first-served basis.

**NO RUSH JOBS**  
**NO QUEUE HOPPING**

### AFTER SUBMITTING

Keep an eye on your email as staff may reach out with questions, concerns, or any issues.

**MINOR ISSUES:** can be troubleshot by LAB staff  
**MAJOR ISSUES:** may result in your submission being cancelled

**WE WILL EMAIL YOU WHEN YOUR PIECE(S) ARE READY WITH YOUR TOTAL** You will have two weeks to pick up your piece(s)-get in touch if that doesn't work for you!