

Materials List for:

# Design of an Open-Source, Low-Cost Bioink and Food Melt Extrusion 3D Printer

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URL: <https://www.jove.com/video/59834>

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## Materials

Name	Company	Catalog Number	Comments
15 W 12V DC 50x100mm Flexible Silicon Heater	Banggood	1280175	Optional; AU\$4.46
3D Printer	Lulzbot		<a href="https://download.lulzbot.com/">https://download.lulzbot.com/</a>
3D Printer	Ultimaker	Ultimaker 2+	
AC 100-240V to DC 12V 5A 60W Power Supply	Banggood	994870	AU\$12.7
Acrylic Sheet White Continuous Cast 1200x600mm	Mulford Plastics		AU\$36.95
Allen Keys	Metric		
Arduino MEGA2560 R3 with RAMPS 1.4 Controller	Geekcreit	984594	AU\$28.91
Carbon Steel Linear Shaft 8mm x 350mm	Banggood	1119330	AU\$13.44
Carbon Steel linear Shaft 8mm x 500mm	Banggood	1276011	AU\$19.42
Chocolate	Cadbury		
Computer with internet access	Dell		
Coupler 5-8mm	Banggood	1070710	AU\$6.93
Hand Cream	Nivea	80102	
Heating Cartridge	Creality 3D	1192704	AU\$4.75
K Type Temperature Sensor Thermocouple	Banggood	1212169	AU\$2.37
Laser Cutter	trotec	Speedy 300	<a href="https://www.troteclaser.com/">https://www.troteclaser.com/</a>
M10 1mm Pitch Thread Metal Hex Nut + Washer	UXCELL		AU\$8.84
M10 1mm Pitch Zinc Plated Pipe 400mm Length	UXCELL		AU\$11.62
M2 - 0.4mm Internal Thread Brass Inserts	Ebay		AU\$5.65
M2 Nuts	Suleve	1239291	AU\$9.17
M2 x 10 mm Button Hex Screws	Suleve	1239291	AU\$9.17
M2 x 5mm Button Hex Screws	Suleve	1239291	AU\$9.17
M3 - 0.5mm Internal Thread Brass Inserts	Suleve	1262071	AU\$7.5
M3 Nuts	Suleve	1109208	AU\$7.85
M3 Washer	Banggood	1064061	AU\$3.05
M3 x 10mm Button Hex Screws	Suleve	1109208	AU\$7.85

M3 x 20mm Button Hex Screws	Suleve	1109208	AU\$7.85
M3 x 6mm Button Hex Screws	Suleve	1109208	AU\$7.85
M3 x 8mm Button Hex Screws	Suleve	1109208	AU\$7.85
M4 x 8mm Button Hex Screws	Suleve	1273210	AU\$4.32
Needle Luer Lock 18 - 27 Gauge	Terumo	TGA ARTG ID: 130227	AU\$3.57
NEMA 17 Stepper Motor	Casun	42SHD0001-24B	AU\$54
NEMA Stepper Motor Mounting Bracket	Banggood	ptNema17br90	AU\$4.79
Pillow Block Flange Bearing 8mm	Banggood	KFL08	AU\$5.04
PLA Filament	Creality 3D	1290153	AU\$24.95
Pluronic F127	Sigma Aldrich	P2443-250G	
SC8UU 8mm Linear Motion Ball Bearing	Toolcool	935967	AU\$21.6
SG-5GL Micro Limit Switch	Omron	1225333	AU\$4.5
Soldering Station			Solder, Wires, Heat shrink e.c.t.
Spring	Banggood	995375	AU\$2.53
Syringe 3ml Luer Lock Polypropylene	Brauhn	9202618N	AU\$3.14
Timing Pulley GT2 20 Teeth and Belt Set	Banggood	10811303	AU\$11.48
Trapezoidal Lead Screw and Nut 8mm x 400mm	Banggood	1095315	AU\$29.02
Variable Spanner			