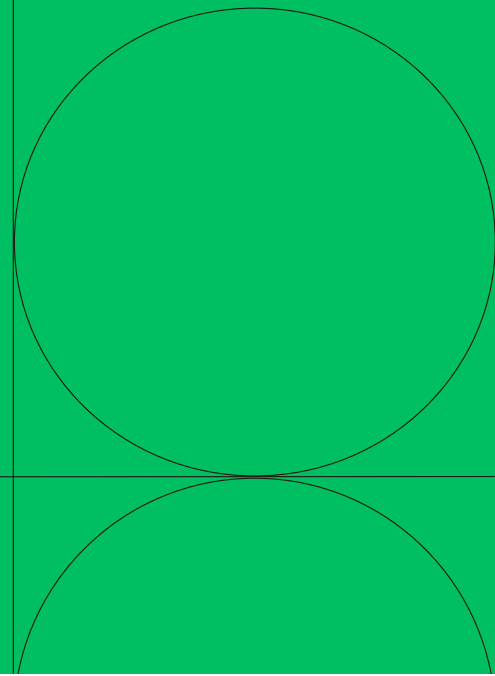


Laney FabLab Machines & Functions



3D Printers

Ultimaker S7



- The Ultimaker S7 is a large white 3D printer that uses **FTM printing** also known as **Fused Filament Fabrication** to extrude filament through a nozzle and print objects from a digital design using plastic, metal, or other materials.
- **Supported Materials:** PLA, PETG, ABS
- **Build Area:** 330 x 240 x 300 mm (~ 13 x 9.4 x 11.8 in)
- **Type of Manufacturing:** Additive
- **Location:** Clean Room

Bambu Lab X1E



- The Bambu Lab X1E is a black 3D printer that uses **FTM printing** also known as **Fused Filament Fabrication** to extrude filament through a nozzle and print objects from a digital design using plastic, metal, or other materials.
- **Supported Materials:** PLA, PETG, ABS
- **Build Area:** 256 x 256 x 256 mm
- **Type of Manufacturing:** Additive
- **Location:** Clean Room

Formlabs Form 4 (Resin 3D Printer)



- The Formlabs Form 4 Resin 3D printer uses **MSLA Technology (Masked Stereolithography)** to cure liquid polymers when exposed to light to create precise parts layer by layer.
 - This resin 3D printer works together with the **FormWash** (step 2) and **FormCure** (step 3) to clean and fully cure prints after they are finished.
- **Supported Materials:** Proprietary liquid polymer resins
- **Build Volume:** 200 x 125 x 210 mm
- **Type of Manufacturing:** Additive
- **Location:** Clean Room

Formlabs Fuse 1 (SLS 3D Printer)



- The Formlabs Fuse 1 is a **Selective Laser Sintering (SLS)** 3D printer that uses laser to harden layers of thermoplastic powders into solid objects.
 - This SLS 3D printer works together with the **Fuse Sift** (step 2) to clean, recover, and recycle unused powder after printing.
- **Supported Materials:** Nylon 12 Powder
- **Build Volume:** 159.8 x 159.8 x 295.5 mm
- **Type of Manufacturing:** Additive
- **Location:** Clean Room

Laser Cutters

Epilog Laser HELIX



- The Epilog Laser Helix is a 60W laser cutting and engraving machine.
- **Supported Materials:** Wood, acrylic, plastics, metal, and leather
- **Work Area:** 18" x 24"
- **Type of Manufacturing:** Subtractive
- **Location:** Between the Clean Room and the CNC Room

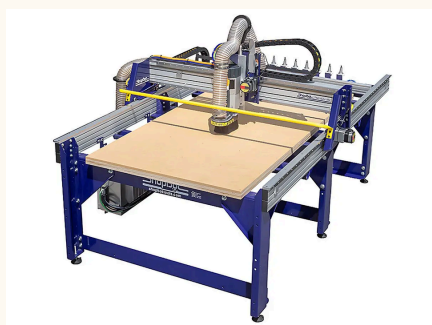
Universal Laser Systems



- The Universal Laser Systems 100W laser cutter is a machine that uses a CO2 laser to cut, engrave or mark materials by removing materials from the surface.
- **Supported Materials:** Wood, plastic, paper, and aluminum
- **Work Area:** 18" x 32"
- **Type of Manufacturing:** Subtractive
- **Location:** Between the Clean Room and the CNC Room

Milling

Shop Bot



- The ShopBot is a CNC mill/routing machine that uses a computer-controlled router to cut, carve, and engrave wood, plastics, and soft metals with high precision.
- **Supported Materials:** Wood (plywood, hardwood, MDF), plastics (acrylic, polycarbonate, ABS, PVC, etc.), foam, soft metals (aluminum & brass)
- **Work Area:** 96" x 60" x 15"
- **Type of Manufacturing:** Subtractive
- **Location:** CNC Room

Pocket NC Machine



- The Pocket NC is a 5-axis desktop CNC mill that uses a computer-controlled spindle to cut precise parts from materials.
- **Supported Materials:** Wax, plastics (acrylic, Delrin, ABS, etc.), machinable foam, and soft metals (aluminum, brass)
- **Work Area:** 115.5 x 128.3 x 90.1 mm
- **Type of Manufacturing:** Subtractive
- **Location:** Main Open Space

Other Machines

Geo Knight Heat Press

- The Geo Knight Heat Press is an industrial press machine used to transfer designs onto a variety of materials from apparel to hard surfaces using heat and pressure.
- **Supported Materials:** Heat transfer vinyl (HTV)
- **Work Area:** 16" x 20"



- **Location:** Main Open Space

Roland SG3- 540 (Large Format Printer)



- The Roland SG3-540 is a large format printer that prints and cuts on different materials including vinyl, banners, canvas, and papers, up to 54" wide.
- **Supported Materials:** Glossy canvas, satin canvas, adhesive-backed vinyl, SoftSign fabric banner, and glossy photobase paper
- **Work Area:** 1,346 x 736 mm
- **Type of Manufacturing:** Hybrid
- **Location:** Main Open Space

Roland CAAM-1 GS-24 (Vinyl Cutter)



- The Roland CAAM-1-GS-24 is a desktop vinyl cutter that uses a computer-controlled blade to cut precise shapes, decals, lettering, and graphics from adhesive vinyl and other supported materials.
- **Supported Materials:** Adhesive vinyl, heat transfer vinyl, stencil film, reflective vinyl, and other thin sheet materials
- **Work Area:** ~584 x 25,000 mm
- **Type of Manufacturing:** Subtractive
- **Location:** Main Open Space

Valiant Baby Lock Embroidery Machine



- The Valiant Baby Lock Embroidery Machine uses a 10-needle system to stitch multicolor embroidery designs, allowing up to 10 different thread colors on a project at once.
- **Supported Materials:** Thread, woven fabrics
- **Embroidery Area: Minimum** - 60 x 40 mm, **Maximum** -360 x 200 mm
- **Type of Manufacturing:** Additive
- **Location:** Main Open Space

ProtoMAX Waterjet



- The ProtoMAX Waterjet uses high pressure water and garnet abrasive to cut materials up to 1 inch thick with precision.
- **Supported Materials:** Aluminum, titanium, stone - only non-buoyant materials
- **Work Area:** 12" x 12" x 1"
- **Type of Manufacturing:** Subtractive
- **Location:** Main Open Space