

Lab Services we can provide to both faculty and students. Lab One (Paul's lab)

3-D Printing

- High Fidelity printing with the use of two Form labs printers. These printers provide great quality but are slow to print. Maximum part size 5.7"x5.7"x6.9"
- **Tough \$4.02 / cubic inch (\$0.245 / cubic cm)**
- **Durable \$4.10 / cubic inch (\$0.25 / cubic cm)**
- **Flexible \$4.67 / cubic inch (\$0.285 / cubic cm)**
- **Clear \$3.52 / cubic inch (\$0.215 / cubic cm)**

- Medium quality parts are provided by our two Dimension printers. Both provide decent parts in a reasonable amount of time. Maximum part size 10"x10"x12". Parts would be ABS plastic
- **ABS: \$0.547 / cubic inch (\$0.036 / cubic cm) \$0.035/g**

- Low/quick iterations parts can be provided by 4-6 or our Luzbot printer and Type A printers. Time frame for parts are reasonable. Maximum part size 11"x11"x 9.8" Parts would be PLA plastic.
- **PLA: \$0.666 / cubic inch (\$0.040 / cubic cm) \$0.033/g**
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- *Once we have our Modix 3-D printer up and running we will be able to print parts that can be 24"x48"x25". Parts would be PLA plastic.*

3-D parts can be printed and shipped within 12-24 hours depending on size, quantity and demand.

Laser Cutting

- Our laser cutter can cut materials and engrave materials such as acrylic, wood, cardboard, leather, stone (engrave) glass (engrave) and various signage substrates.
- Our smaller laser cutter bed size is 18"x24" wattage is 40W.
- Our larger laser cutter is 24"x48" wattage is 70W.
- **Part Costs \$2.00 per minute (Does not include cost of materials)**

Laser parts can be cut/engraved and shipped in approx. 8 hours depending on size quantity and demand.

CNC machined parts.

- The HAAS travels are 40" X 20" X16" (XYZ)Parts can be double sided.

- Parts cost is \$30.00/hour for programming setup and machining.
- Parts can be machined and shipped usually within 12-24 Hrs. depending on size, quantity, material and demand

Scanning

- We have two scanners, one for small parts (computer mouse) and larger parts (a car)
- You can choose between a Mesh Output or a Surface File
- The base cost to scan an object is \$10.00 and can increase depending on complexity and size.

Parts can be scanned within a day depending on size, complexity and demand.

Metal Lab Lab Adjacent to Paul's Lab

Milling Machining.

- We have the capability to machine parts on our Knee Milling machine
- Milling machine bed size is 12"X24"
- Digital readouts for high accuracy.
- Materials that can be machined, Steel, aluminium, wood and plastics.

Machine lathe

- Our machine lathe is capable of turning stock that's 14" in diameter and 36" maximum length
- Digital readouts for high accuracy.
- Materials that can be machined, Steel, aluminium, wood and plastics

Metal Work

- Our Metal Lab is set up to do various metal forming.
- Sheet metal bending, rolling and cutting
- Steel tube bending. 1/2" tube sizes to 1 1/2" diameter tubing in mild steel
- Buffing and drilling

Welding

- We have the capability to MiG weld, TiG weld, Oxy Acetaline welding and Spot welding.

Parts can be fabricated and shipped within 8-12 hours depending on size, quantity, material complexity and demand.

Vinyl Cutting

- We have the capability to vinyl cut.
- Your artwork must come as an Ai Illustrator file.
- Maximum width is 15" Length unlimited.

Cost would be \$0.25/sq. Inch. Vinyl cut parts can be shipped within 12-24 hours depending on size, quantity, material complexity. We have a limited stock of basic colours.

Services we can provide to both faculty and students. Lab Two (Anthony's lab)

Shop Capabilities

- We are capable of providing the following tasks
 - Table saw work, straight cuts
 - Bandsaw work, cutting curves on various materials
 - Sanders, Disk, belt and orbital drum sanding.
 - Router table, edge details
 - Wood turning, Turning organic shapes in various soft materials such as wood and foam
 - Machine lathe capabilities
 - Milling machine capabilities
 - Scroll saw work, tight
 - Drill press for drilling precise holes.

Parts can be shipped within 12-24 hours depending on size, quantity, material complexity and demand on stock availability. (materials that need to be glued up will require 24 hours).

Router Table

- Our XYZ's router table size is 39"X39" the "Z" travel is approx. 4"-6" depending on part geometry. It can also do double sided parts.
- Capable of machining 2-D and 3-D parts

- Machinable materials can be wood, urethane foam, various plastic's and aluminium (with restrictions)
- Our Roland router table is capable of milling parts up to 10"X18" with a "Z" travel of 4". It can also do double sided parts.
- Machinable materials can be wood, urethane foam, various plastic's and aluminium (with restrictions)

Routed parts can be shipped within 12-24 hours depending on size, quantity, material complexity, demand and stock availability. (materials that need to be glued up will require 24 hours).

Services we can provide to both faculty and students. Soft Lab (Anthony's lab)

Our Soft Lab is equipped with the following machines. We are capable of providing simple sewing tasks or pre-cutting materials for delivery.

- One Industrial/Heavy duty sewing machine. We have a Consew sewing machine capable of sewing through several layers of thick materials and some soft plastic.
- One Semi-Industrial machine. We have a Janome 1600 machine. Capable of straight sewing stitch through several layers of fabric.
- One Domestic Sewing Machine. We have a Pfaffe sewing machine. Equipped with several stitch styles.
- Two Industrial Sewing Machines (Factory type machines) Brother straight stitch machine, both heavy duty machines.
- Two Serger Sewing Machines. Surge light to medium weight fabrics.

Fabric related request can be shipped within 12-24 hours depending on complexity and quantity.

Available materials that can be purchased

Clear Acrylic

- 1/8" Thick 6"X12"\$2.00
- 1/8" Thick 12"X12" "\$4.00
- 1/16" Thick 6"X12"\$1.50
- 1/16" Thick 12"X12" "\$3.00

White Styrene

- .08" Thick 12"X12" "\$3.50
- .06" Thick 12"X12"\$2.50

Urethane Foam (*\$.05 per square inch*)

- 2" thick 4"X4"\$1.60
- 2" thick 4"X8"\$3.20
- 2" thick 8"X8"\$6.40
- 4" thick 4"X4"\$3.20
- 4" Thick 6"X12"\$14.40
- 4" Thick 12"X12"\$28.80
- 4" Thick 12"X18"\$43.20

(Please specify density. Hard, Medium or Soft).

Blue Foam

- 4" Thick 6"X12"\$2.50
- 4" Thick 12"X12"\$5.00
- 4" Thick 12"X18"\$6.50

Kolb Styling Clay

One billet. (2.5"X2.5"X10").....\$8.00