

Laser Cutting

Equipment:

- (3) VersaLaser VL300 Laser Cutter with computerized exhaust and filtration
- Cuts, engraves, and etches: paper, cardboard, and plastics
 - Engraves and etches: glass and ceramics, some treated metal and stone.

*Maximum Project Area: **12" x 24"**

*CorelDraw X3 primary program, some Adobe Illustrator files may be incorporated. User is responsible for providing working file for Discovery World technician to use.

*Material not supplied by Discovery World

*All machine operation will be done by on site Discovery World technician.

*Hours of operation are TBD by Discovery World

3D Printing: Dimension BST 1200 3D Printer

Equipment

- (1) Dimension BST 1200 3D Printer
- Builds 3D objects from STL files
 - Uses fused deposition modeling (FDM) to layer ABS plastic into shape
 - Separate cartridges for support and model material
 - Solid Works used to design models
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*Maximum project area: **12"x12"x18"**

*STL files will be submitted to Discovery World technician for review. Necessary changes to said files must be made by the client/user. If files are formatted correctly Discovery World technician will commence the project. Run times vary, and the client will be contacted when the model is ready to be picked up

*All machine operation will be done by Discovery World Technician

*Hours of operation TBD by Discovery World

3D Printing: Z Corporation Spectrum Z510 Printer

Equipment

(1) Z-Corporation Spectrum Z510 3D Printer

- Builds 3D objects from STL file
- Alternates layers of starch and colored binder to create model
- Final model may be hardened by application of additional compound
- Objects remain fragile
- SolidWorks used to design models

*Maximum Project Area: **10"x14"x8"**

*STL files will be submitted to Discovery World technician for review. Necessary changes to said files must be made by the client/user. If files are formatted correctly Discovery World technician will commence the project. Run times vary, and the client will be contacted when the model is ready to be picked up

*All machine operation will be done by Discovery World Technician

*Hours of operation TBD by Discovery World

Sample Cutter

Equipment

- (1) Data Technology (Gerber LTD) M1200 Sample Cutter
 - Cuts, scores, creases, or draws a design from a DXF
 - Works with cardboard, Mylar, fabric, cardstock, paper, foam, or other thin material able to be cut by an X-Acto blade

*Maximum Project Area: **45" x 60" x 2"**

*Material may be provided by Discovery World at an additional cost, with adequate lead time for material ordering considered.

*All files submitted will be reviewed by Discovery World technician for project approval. Necessary changes to said files must be made by the client/user.

*All machine operation will be done by Discovery World Technician

*Hours of operation TBD by Discovery World

CNC Mill Machines

Equipment

- (3) Flash Cut 7300 Series CNC Mill
 - 3-axis high speed rotary mill with detachable rotary fourth axis
 - Carves objects, images, or designs from plastic, wax, wood, foam, and non-ferrous materials
 - Requires DXF
 - Toolpath may be automatic or programmed in
 - Software used: FlashCut, Visual Mill, MasterCAM

* Approximate **12"x18"x6"** project area

*Material may be provided by Discovery World at an additional cost, with adequate lead time for material ordering considered.

*All files submitted will be reviewed by Discovery World technician for project approval. Necessary changes to said files must be made by the client/user.

*All machine operation will be done by Discovery World Technician

*Hours of operation TBD by Discovery World

Full Prototyping Equipment List

- (3) Versa Laser VL Cutter with computerized exhaust and filtration
 - Cuts, engraves, and etches: paper, cardboard, vellum, leather, foam, fabrics, rubber, plastics, and wood
 - Engraves and etches: glass, ceramics, and some treated metals and stones.
 - 12" x 24" project area
 - CorelDra X3 primary program, though Adobe Illustrator files may be imported

- (1) Dimension BST 1200 3D Printer
 - Builds 3D objects from STL file
 - Uses fused deposition modeling (FDM) to layer ABS plastic into shape
 - Separate cartridges for support and model material
 - Solid Works used to design models
 - 12"x12"x18" project limit

- (1) Z-Corporation Spectrum Z510 3D Printer
 - Builds 3D objects from STL, VRML PLY, or 3DS files
 - Alternates layers of starch and colored binder to create model
 - Final model must be hardened by application of additional compound
 - Objects remain fragile
 - SolidWorks used to design models
 - 10"x14"x8" project limit

- (3) Flash Cut 7300 Series CNC Mill
 - 3-axis high speed rotary mill with detachable rotary fourth axis
 - Carves objects, images, or designs from plastic, wax, wood, foam, and non-ferrous materials
 - Requires DXF
 - Toolpath may be automatic or programmed in
 - Software used: FlashCut, Visual Mill, MasterCAM
 - Approximate 12"x18"x6" project area

- (1) Data Technology M1200 Sample Cutter
 - Cuts, scores, creases, or draws a design from a DXF

- Works with cardboard, Mylar, fabric, cardstock, paper, foam, or other thin material able to be cut by an X-Acto blade
- 45"x60"x2" estimated project area

(1) Vacuum Former

- Pulls heated material over a mold
- Most molds are positive reliefs
- requires thermoplastic sheets
- 28"x28" project limit with current machine
- Changing molds might require altering frame to fit new box size

(1) Medkaff Nye Co. Roto Sampler

- Forms hollow plastic parts by heating and rotating thermoplastic pellets or powder within a mold

(2) NextEngine 3D Desktop Scanner

- Uses parallel laser beams and multiple cameras
- Maps contours and textures of an object
- Current scanners have no size limit with software and are restricted only by computer hardware
- Theoretical resolution of 1,000,000 points per scan

(1) Interactive Instruments Jet Stream 500 Wind Tunnel

- Allows for monitoring of lift and drag
- Data are collected and plotted in real-time
- Designed for small scale models
- May be used with smoke to determine slipstreaming