

UTK FAB LAB Equipment

Digital Equipment

Robotics

- ABB IRB 140 (2 available)
 - o 6 axis
 - o 810mm reach
 - o 6 kilogram payload

Abrasive Water Jet Cutting

- Omax Maxiem- 10' x 5' bed size, 30 hp pump, 0.013 nozzle diameter.
Acceptable Materials- Most materials can be cut on the waterjet, This machine can cut all metals and plastics, as well as rubber and wood. The material must be resistant to moisture, so wood is not recommended.

CNC Vertical Machining Center

- Haas- VF-2
 - o 30" x 16 x 20" Travel
 - o 3 Axis
 - o 30hp Spindle
 - o 20 Station Tool changer
 - o Acceptable Materials- Most metals

CNC Router (2 Available)

- Shopbot Alpha
 - o 3 axis machine with a rotational 4th axis installed
 - o 8' x 4' x 4.5" material (3 axis)
 - o 32" x 10" x 10" (4th axis)
 - o Vacuum Hold-down
 - o Acceptable Materials- Wood & Timber products, plastics (no metals)
- Shopbot Desktop
 - o 3 axis
 - o 24" x 18" x 2.5"
 - o Acceptable Materials- Wood & Timber products, plastics (no metals)

Laser Cutting

- ULS VLS 6.60
 - o 60 Watt Laser
 - o 32" x 18" cutting area
 - o Air Assist
 - o Acceptable Materials- Wood & Timber products, Acrylic, some fabrics, metals Polycarbonate(Lexan), copolyester, and PVC must not be cut.

3D Printing

- Makerbot Style 3d printing (2 available)
 - o 8.9" x 5.7" x 5.5" build area
 - o PLA Print media (black print media supplied)
 - o 0.2mm Resolution

Upper Level

Woodshop- Table saw 2x saw stop, 1 x delta table saw (all saws 3" max thickness)

Jointer- 8"

Planner – 22"

Bandsaws

Sanders- 24" Drum , 12" disc/ 36" edge, vertical belt, oscillating spindle sander

14" Radial Arm saw

12" Chop saws

Hand and portable power tools (electric and pneumatic) to complete most applications

Drill press

Wood Lathe

Jessem Router Table

Leigh Dovetail Jig

Industrial Sewing Machine

Hot Wire Foam Cutting

Lower Level

Welding- Mig & Tig

Oxy acetylene torch

Plasma Cutting

Vertical Band saw

Horizontal Band saw

Diamond cutoff wheel

Drill Press

Bridgeport style Knee mill – 50"x9" table

Metal Lathe- Bench top 11"x 26"

Hydraulic sheer- 6' shearing length, 1/4 Mild steel, 3/16 stainless capabilities

Foot sheer- 4" shearing length, 16 gauge Mild steel

Hand Finger Brake- 4" bending length, 16 MS gauge capacity