**Introduction: Wood Shop** I

* General shop safety: safety glasses at all times, never wear gloves/loose clothing, jewelry and tie hair back if necessary, ear protection if warranted
* Keep hands clear from moving blades, use push sticks, push pads, or hold downs on small pieces
* Always familiarize oneself with machine, encourage people to make practice cuts on excess/scrap material, liberal use of test pieces
* Never start machines with blades in contact with work pieces

**Handsaw basics:**

Demonstrate basic handsaw and coping saw use**Table saw**: Good for ripping down long pieces of wood, cross cutting and cutting sheet goods. Can make angled cuts with tilting blade and/or adjusting miter; demonstrate ripping, cross cutting and proper use of fence and miters. Cutting of plastic on the table saw.

Ripping: Rip fence=ripping, hence the name

* The minimum stock length determined by diameter of exposed blade: never cut anything shorter than the amount of exposed blade (one foot is a good minimum)
* Set blade height ¼”-1/2” above stock
* In general, don’t use rip fence for stock wider than it is long, especially for smaller pieces
* Rip with larger amounts of material in piece to the right of the blade
* Use push stick with narrower stock (<6”), push from half way between blade & fence
* When pushing the piece through, keep the piece flat on the table with light pressure against the fence
* Either let the pieces drop to the floor or have someone to help catch them, do not reach behind blade
* Helper supports the stock, doesn’t guide, let the saw operator steer

Cross cutting:

* use miter gauge for straight and angled cuts, no free hand cuts
* keep a flat side against miter, putting pressure against miter and table
* do not use fence as a stop unless a spacer is clamped to fence

Extra notes:

* + Use a guard or riving knife (on Sawstop)
  + Watch for kick back, feed material to a side whenever possible
  + Never use warped or twisted material
  + Make sure fence is tightened and calibrated correctly
  + For a piece not square, make sure the larger dimension is against the fence
  + Powermatic & Unisaw vs. Sawstop : conductive vs. non-conductive materials (wood and plywood on Saw Stop only, plastics, and pressure treated lumber on others)
  + Saw Stop and Powermatic-left tilting arbor, Delta Unisaw-right tilting arbor (less chance of kickback on left-tilting)
  + Get shop help to change blades, Unisaw has left-hand threads on arbor, Saw Stop and Powermatic have right-handed threads

**Miter Saws:** Meant for cross cutting and angle cuts of long(er) pieces; demonstrate adjustments, locks, various cuts, safe use of stops and dust collector, cutting of plastic on miter saw

* + Slider vs. Chop saw, straight, angled and compound cuts, slider has wider cutting capacity, but tendency to climb
  + Only use the sliding feature of the saw when necessary and if so, pull all the way forward and down, then feed into piece (avoid climb cutting)
  + Cut through the pieces and allow blade to stop before raising saw and grabbing piece
  + Use Clamps on shorter pieces
  + Use stops for repetitive cuts, test and calibrate before making cuts

**Panel saw:** Ripping or cross-cutting of large sheet goods down to an approximate size, demonstrate ripping and cross cuts

* Minimum size of ~4’, rough cut on panel saw, finish cut on table saw

**Circular Saws:** General purpose saw for making straight cuts; demonstrate setting up saw, free hand, plunge cuts and guided cuts, use of DeWalt Track Saw

* + Used for straight cuts only, free hand or guided (speed square and clamped fence)
  + Secure stock, clamp or have someone help
  + Check blade guard, and use of guard lever
  + Set blade depth with ¼”-1/2” protruding through stock
  + Always make sure of proper blade clearance beneath the saw, keep hands and cord away from blade path
  + Plunge cut by using front as pivot point and hold back blade guard with lever
  + Briefly mention jig saw (for curved cuts)

**Band saw:** Already had it, but at least show setting blade tension (not on ones in discovery center) and to set it before turning on the saw

**Nails, screws and glues:**

* Demonstrate basic hammer and drill/driver use: different types of nails, screws, screw heads and use of pilot holes and counter sinks
* Use of carpenter’s glue, polyurethane glue and construction adhesive (?)