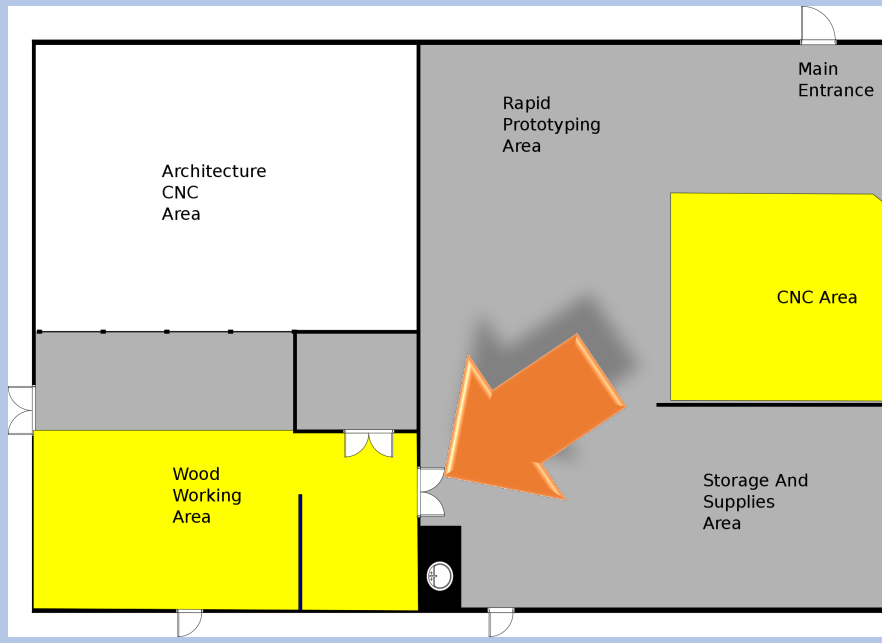
# Tulane MakerSpace

# Wood-1 Training Presentation

# Wood-1 Training

## MakerSpace Layout:

- This presentation will focus on tools in the “Wood Working Area”, which are used primarily for wooden materials.
- Training for Wood Working Tool access involves two parts:
  - Part One requires completing this presentation and the quiz that follows.
  - Part Two requires an in-person demonstration where you will use each of the tools to make a small part.



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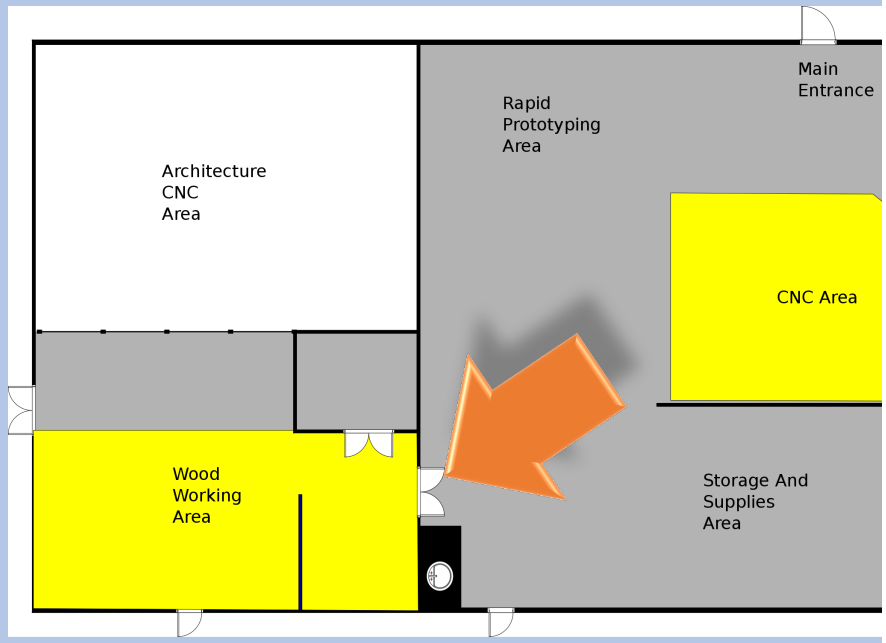

# Wood-1 Training

**MakerSpace Safety:**

- **Anyone standing in a yellow zone must be wearing:**

  ***safety glasses**

  ***long pants**

  ***closed-toe shoes**

- **Long hair must be tied back, and no dangling clothes or jewelry are allowed.**

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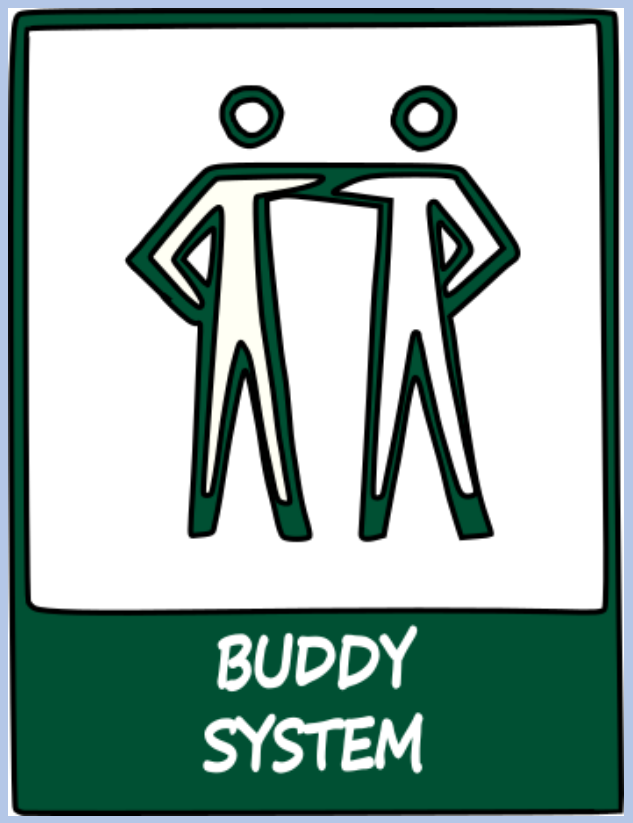
**MakerSpace Safety:**

- **The "buddy system" requires that - at all times - there has to be someone in the same room who can both hear and readily see you, and can come to your aid.**
- **For example, someone in the Mezzanine is not a "buddy" for someone working on the Main Floor. Buddies must be able to immediately see and hear if a problem arises.**



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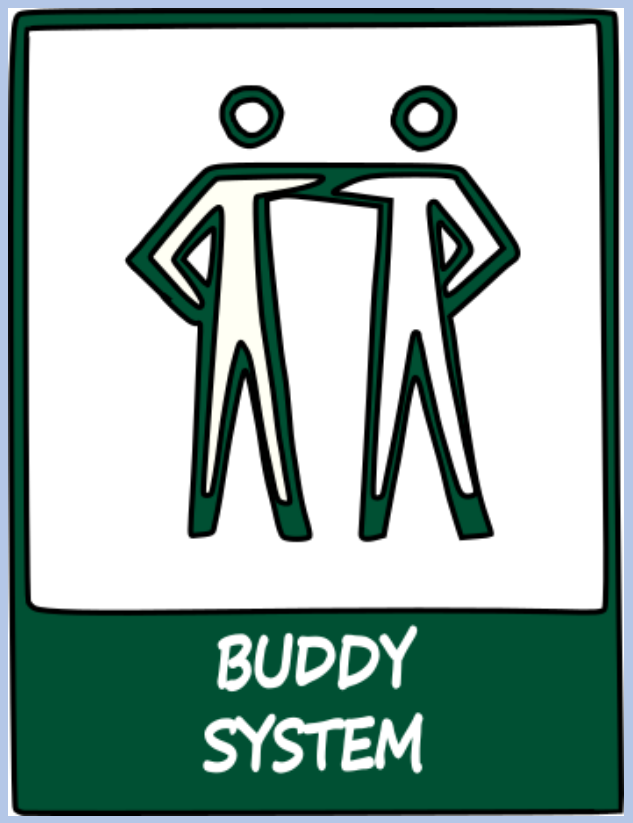

# Wood-1 Training

**MakerSpace Safety:**

- **Be aware of other people in the vicinity, and what they are doing. This rule applies to tool operators, helpers, and bystanders.**

- **Maintaining control of the workpiece is the most important way to operate tools safely and effectively.**
  - **Clamp any parts that can remain stationary during a cutting or drilling operation.**
  - **Keep parts/workpieces pressed against the table and/or fence.**
  - **Consider the motion of cutting surfaces and the forces they apply to your workpiece.**

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# Wood-1 Training

## Tools: Band Saws

- **There are two vertical band saws in the Wood Working Tool area.**

**The larger band saw is best used for straight cuts on larger material.**


**Please do not attempt to cut metal on either saw. It will damage the blade and may destroy the machine.**

**The smaller band saw is best used for rounded or angled cuts on smaller material.**

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# Wood-1 Training

## Tools: Band Saws

- **When using a band saw, first adjust the height of the guard so that it covers as much of the blade as possible without interfering with your cut.**

**Turn the knob on the right side to loosen the guard, then adjust height with your hand and tighten the knob.**


**Release the guard lock on the right side, then turn the knob to adjust height and re-lock the guard.**

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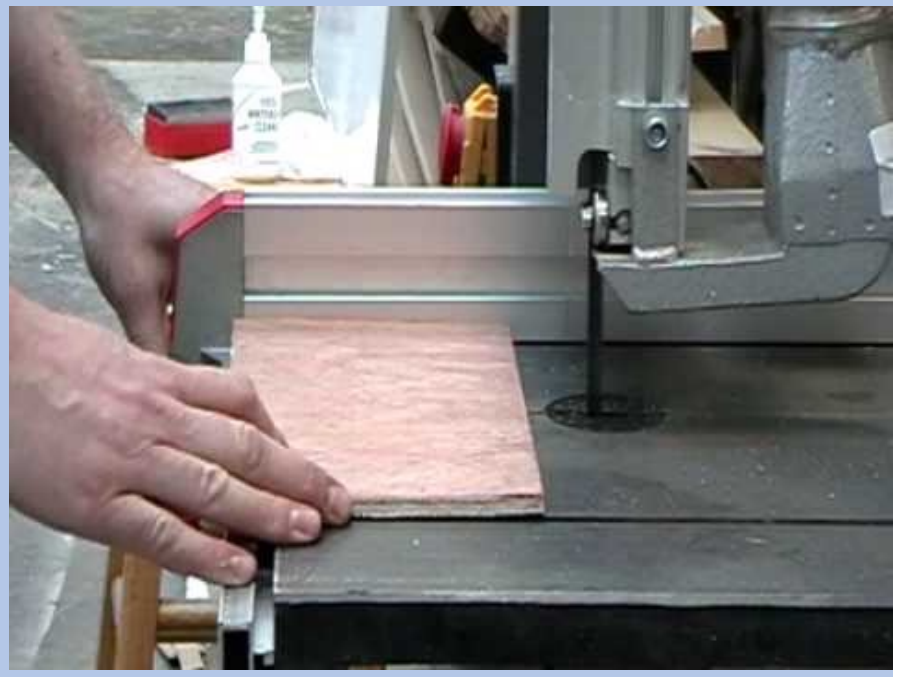
# Wood-1 Training

## Tools: Band Saws

- Turn the saw on, then slowly move your workpiece toward the moving blade while keeping it flat on the work surface.
- **Do Not** attempt to hold your workpiece above the work surface, the saw will rip it from your hands and likely injure you.
- Guide your workpiece through the blade carefully, pushing it too fast can break the blade.



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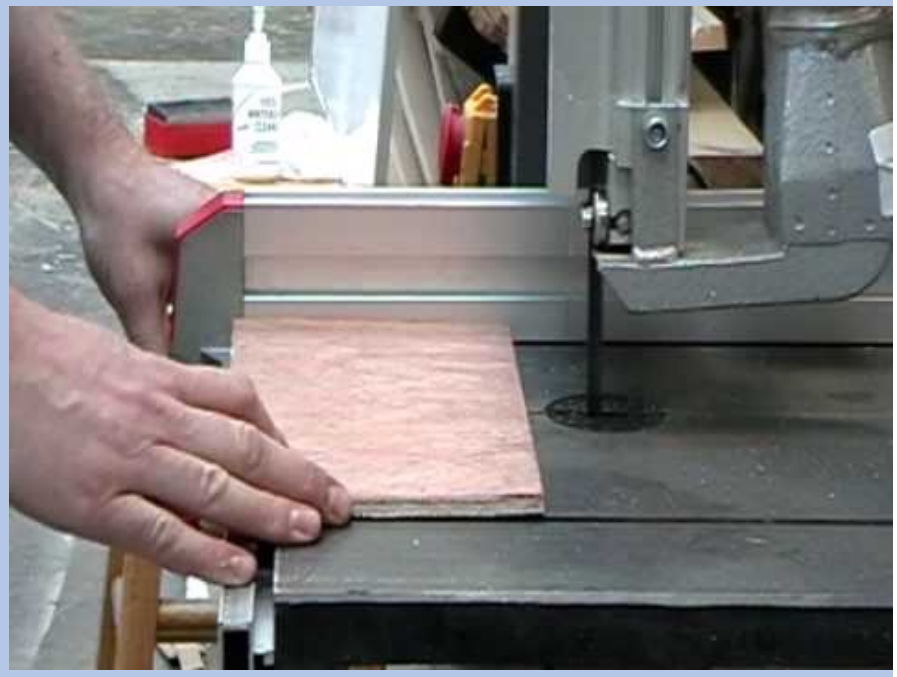
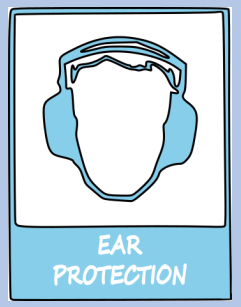


# Wood-1 Training

**Tools: Band Saws**

- **KEEP YOUR HANDS AS FAR FROM THE MOVING BLADE AS POSSIBLE.** **If you need to use a cutting guide, push stick, clamp, or whatever helps, USE IT.**




- **Depending on the wood being cut, you may want to wear ear protection.**
- **Band saws can cut curved paths, but its important to avoid putting too much horizontal stress on the blade by cutting sharp curves.**

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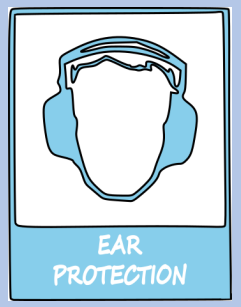


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# Wood-1 Training

**Tools: Jig Saws/BladeRunner**

- **The Rockwell BladeRunner is a simple tool which can make a wide range of different cuts without much setup.**
- **By simply changing the blade, it can make curved, square, cross, or rip cuts with ease and accuracy.**
- **It is perfect for small parts and delicate cuts, and even has attachments for circular cuts, defined-angle cuts, or straight cuts.**

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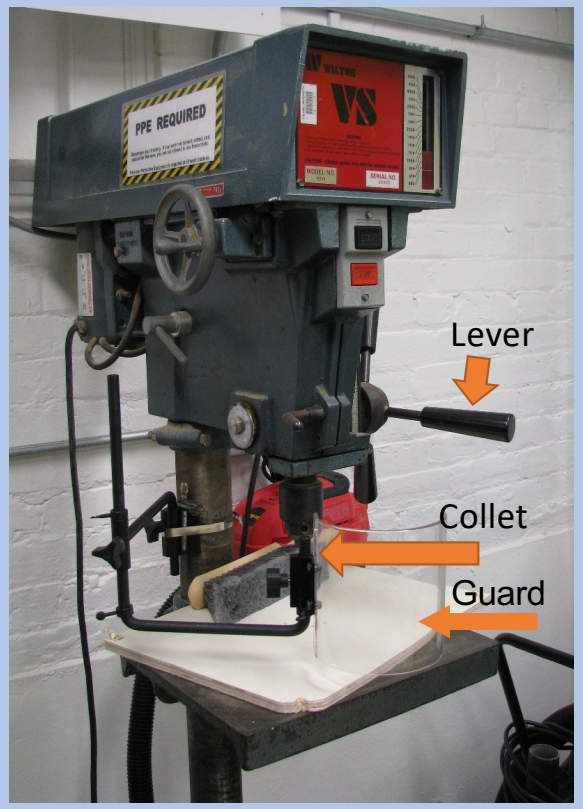
# Wood-1 Training

## Tools: Drill Press

- When using a drill press, insert the drill bit into the collet and tighten it by hand.
- Once you're sure the bit is straight, use the chuck key to securely tighten the bit in place.


Chuck Key

- Secure your workpiece in place, and move the guard in front of the drill bit.
- Turn the machine on and rotate the lever to lower the drill bit into place.
- Slowly apply pressure, allowing the bit to cut the hole through the workpiece.



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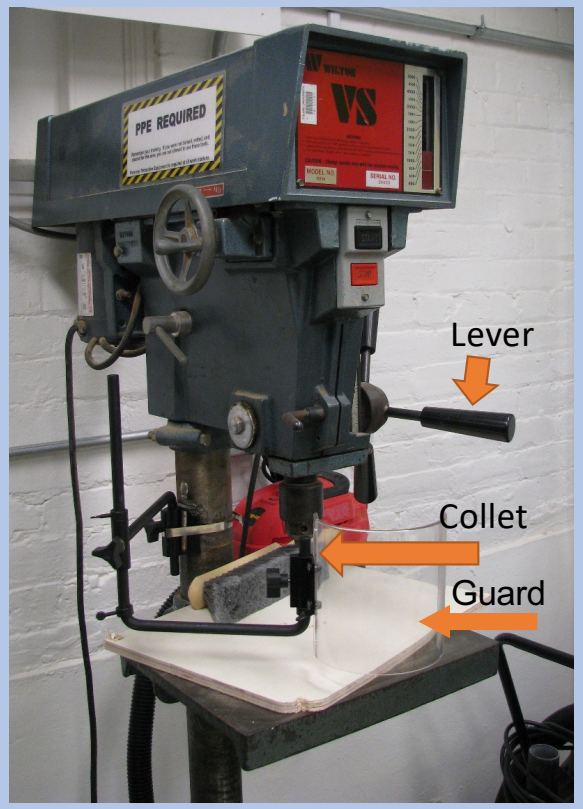


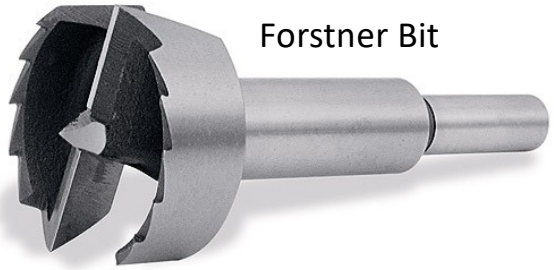
# Wood-1 Training

**Tools: Drill Press**

- **An index of standard drill bits is available for holes up to ½” in diameter.**
- **For larger holes there are a number of other options to use in the drill press**
  - **Spade bits, Forstner bits, and hole saws are among the most common.**
- **Choose the appropriate type of tooling for the job.**

Standard bits


Spade Bit



Forstner Bit


Hole saw

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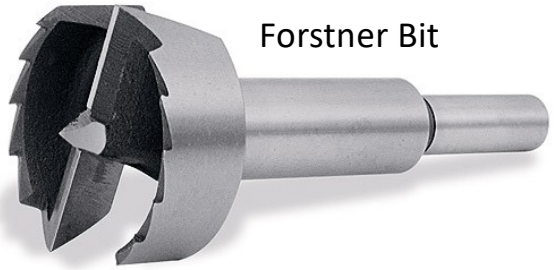

Forstner Bit


Hole saw

# Wood-1 Training

## Tools: Power Sanders/Combination Belt & Disk Sander

- **There are two large sanding tools in the Woodworking area.**

**The spindle sander has a sanding drum that rotates. It is useful for sanding small diameter curves and inside curves on flat stock.**



**The combination belt & disk sander is used for sanding outside faces of a workpiece.**

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**Tools: Power Sanders/Combination Belt & Disk Sander**

- **Using a power sander can produce a lot of dust which can irritate the throat and nasal cavities, and can also be toxic.**
  - **Remember to always use a dust collection system and/or a dust mask when sanding.**
- **Be aware that sanders can easily pull work objects out of your hands and turn them into projectiles.**
  - **Always use the tables for support, and wear a face shield if you feel it is appropriate.**



- **WARNING: When you turn on the combination sander, BOTH parts will start! Clear both tables before starting.**

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## Tools: Dust Collection

- Some species of wood contain sensitizers or toxins, some individuals are more sensitive to the oils or airborne particles than others, but all sawdust presents a potential hazard.
- Dust collection should be considered for every operation in the wood shop:
  - Every running tool can and should be connected to the central dust system, a portable collector, or a shop vacuum.
  - Consider using a dust mask or even a respirator for personal protection.

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**Click button to proceed to quiz**