

# **College for Creative Studies Alfred Taubman Center for Design Education**

## **Alfred Taubman Center-Model Shop Policy And Procedures**



# **User Handbook**

### A. Alfred Taubman Model Shop

As part of Academic Facilities, the Model Shop provides equipment, facilities and staff to registered CCS students to support their educational experience. Other roles of the Model Shop and its staff include: support of faculty in the design and construction of models. The Model Shop provides a full complement of power and hand tools. The Model Shop staff provides facility maintenance, user assistance, and supervision while offering users an extensive knowledge of materials, tools, processes and safety. CCS students are responsible for working on and or finishing their own work. **All faculty are responsible for teaching their students the tools and techniques they expect their students to use in the construction of finished products.** Through user education and supervision our goal is to minimize the risks using hand tools and power equipment. Students must pass prerequisite foundation courses to access Model Shop (c+ or higher). MSO training is required for faculty to access and use Model Shop facilities after normal working hours. Unsafe use of Model Shop facilities and equipment may result in revocation of access to the facility.

### General Operating Hours

Mon – Fri 8:30am-11:00pm  
Sat – Sun 12:00pm – 7:00pm

### Contact Information

Neal Sackey-Shop Manager- Ph. 1-313-664-1607  
Steve Guerra-RP/Model Shop Technician 1-313-664-1608

## Policies and Procedures

### Shop Access Privileges

ALL shop users **MUST** be registered students or faculty.

**Faculty** will be required to obtain a Model Shop key from security after normal working hours. Key access checkout will require a drivers license or credit card.

Two people must be present in Model Shop at any time work is in progress. **Responsibility** for adherence to shop safety, **supervision** and cleanup is acknowledged upon receiving key.

### Shop Hours

Shop hours are posted in the shop and on the CCS Academic Facilities web page

Extension of shop hours must be requested by instructors at least 48 hours in advance.

### Personal Protective Equipment

Safety glasses or goggles **MUST** be worn during the operation of any stationary or portable power equipment (non-tinted, plastic-lens prescription glasses are also acceptable).

Ear muffs and ear plugs are available and should be worn during sustained use of noise generating equipment.

Dust masks are available and should be worn when generating significant amounts of dust.

### Tool Check-Out

You are responsible for any tools you check out. If Model Shop equipment is lost, stolen or damaged while checked out to you, you are responsible for replacement.

Tools should be returned to the shop promptly upon completion of use. **Model Shop tools** are not to leave the shop.

### Housekeeping

A clean shop is a safe shop. Be considerate of other shop users by keeping your work area neat. **ANY** materials sitting on the floor at **ANY** time will be considered trash and treated accordingly.

Sweep up any significant dust or refuse as you make it. Throw away scraps as you make them.

Daily clean-up starts **ten minutes** before closing. Please help us clean up by stopping work, returning tools and removing/storing your materials at least ten minutes before closing time.

## **Policies and Procedures (cont)**

### **Air Quality and Dust Collection**

In order to maintain the air quality in the shop and neighboring areas an extensive dust collection system is provided.

**NEVER** allow sparks or other incendiary material to enter the dust collection system.

Any product that creates harmful fumes outside of properly ventilated areas is against Federal law. Please use finishes, adhesives, resins, bondo and similar products in the spray booth ONLY!!

### **Materials Storage**

Store any materials neatly and out of the way of other shop users. Obtain permission from a Shop Attendant before leaving any materials unattended in the shop.

**Unidentified materials** may be disposed of at the Shop Attendant's discretion.

### **Materials Sales**

The Model Shop provides miscellaneous materials for sale to faculty and staff.

Accounts must be paid in full by department administrator.

Check on inventory of materials prior to needed date, stock can be inconsistent.

With adequate notice, we may be able to order specific materials for you, check with shop management.

### **Spray Booth**

The spray booth in RM 1110 is the **only approved** location to use substances which may generate harmful vapors.

### **Safety Data Sheets**

Safety Data Sheets (SDS) SDSs provide information about the health hazards that may be associated with manufactured products as well as recommendations for limiting exposures and treating potential exposures. The MSDS information is located inside the Model Shop area.

## **General Workshop Safety**

Consult with a Model Shop staff before performing any procedure you are unfamiliar with. He or she is the one to decide if the work can and should be done, and will be able to suggest the safest, most efficient way to do it.

The Model Shop is a working environment. **Be aware** of your surroundings, this includes not only yourself but others around you. This is particularly important when using power tools. Be sure the work you are doing doesn't endanger yourself or anybody else around you.

Clothing: Dress properly for your work. Remove coats and jackets, roll up loose sleeves, remove loose jewelry and tie back long hair. Wear shoes, **NO SANDLES ALLOWED!**

Eye Protection: Wear safety glasses, goggles or a face shield when operating any power tools. Be sure you have enough good light to see what you are doing.

Headphones: When operating machines, you need to be able to hear what is going on around you. The use of headphones is **prohibited** when operating power tools.

Dull tools, blades and sanding discs are dangerous never use a tool unless it is sharp and in good condition. Notify shop staff if tools are damaged, dull or in need of adjustment.

**Never** carry sharp tools in your pockets.

Whenever possible, clamp or mount your work to avoid injury with power tools or sharp hand tools.

Give yourself enough time to complete your work. Rushing can lead to accidents and seldom produces quality work.

The floor should be kept clear of scrap blocks and excessive litter. Keep walkways free from clutter. Immediately wipe up any liquids spilled on the floor.

Make sure power tool is in the **off position** before plugging power tool into power outlet.

**Absolutely no horseplay in Model Shop** this can put others as well as yourself in danger while working in a shop environment.

**Do not** cut small pieces of material on the table saw.

**When using power tools it is important to use your senses sight, smell, touch and hearing. These may often indicate something is wrong with the power tool you are using or you are using the tool incorrectly!**

## **Power Tool Safety**

Wear appropriate personal protective equipment. (safety glasses, ear plugs, dust masks, etc.)

Make all the necessary adjustments before turning a tool on.

**Never** operate a power tool when you are tired.

Machine tables are not work spaces.

Work the tool carefully and only as fast as the material will be cut easily. **Never** force power tools thru your work. Most cutting tools should operate smoothly without excessive force.

Think through an operation before performing it. Know what you are going to do and what the machine will do in response. Make all the necessary adjustments before turning on the machine.

Allow the machine to reach its **full operating speed** before feeding in the work. This allows for consistent tool contact which results in better control of your work.

Do not allow your attention to be distracted while operating a machine. Do not distract other shop users while they are operating equipment. When you have completed an operation on a machine, shut off the power.

**Never** leave a tool running unattended.

**Always assume that any machine you approach may be running.** Most machines run very quietly or can coast without power for a long time. In a shop setting you may not hear the machine running and it may be hard to detect movement.

## **Model Shop Equipment**

### **Band Saw**

**Before** turning on band saw visually inspect the saw and surrounding area. Make sure there is nothing on the floor that would cause improper footing while operating the saw. Also make sure upper and lower access doors are closed, the blade is intact and adjust the blade guard to reduce the chances of an accident.

When operating the saw work **must** be laying flat on the table unless supported by a jig or fixture which is supported by the table.

Plan out cuts to avoid backing out of work, but if backing out of a cut is required turn off band saw first.

Make turns carefully and do not twist blade, relief cuts will help when cutting tight turns.

If blade breaks step back and turn off band saw, notify shop personnel so a new blade can be installed.

Turn band saw off when not in use.

**Always assume that any machine you approach may be running.** Most machines run very quietly or can coast without power for a long time. In a shop setting you may not hear the machine running and it may be hard to detect movement.

**Never** push your work piece with your hand/fingers directly in line with the blade. Materials can often split or crack resulting in sudden quick movement towards the blade resulting in an injury.



## Disc Sander

Work piece **must** sit flat on the table or be secured to an angle plate, block, ect. which sits flat upon the table.

Sand only clean new wood be careful that any type of **metal fasteners** are not in your work piece. Avoid sanding work that has wet or excessive glue, this will clog up and reduce the life of the abrasive disc.

Always use a backer block or other techniques when sanding thin pieces on the disc sander.

**Always** sand on the side of the table that the disc is turning down into. Trying to sand while the disc is pushing the work piece up off of the table can cause injury to yourself or others around you.

Allow the machine to reach its **full operating speed** before feeding in the work.

**Do not turn the sander on and off repeatedly while sanding.** By doing so you cannot achieve a consistent feel for how much pressure is needed to sand your work accurately. This also is very hard on the equipment.

**Never sand** any material which could cause any type of spark. The fine dust created in a model shop can easily ignite. If there are any kind of fasteners (nails,screws,staples,ect.) be sure not to make contact with the sanding disc.

**Always** be aware of where your hands/fingers are in relationship to the opening in between the table and the disc.





### Oscillating Spindle Sander

Remove sanding drum by loosening retaining bolt in a **counterclockwise** direction.

Select desired drum diameter and abrasive grit.

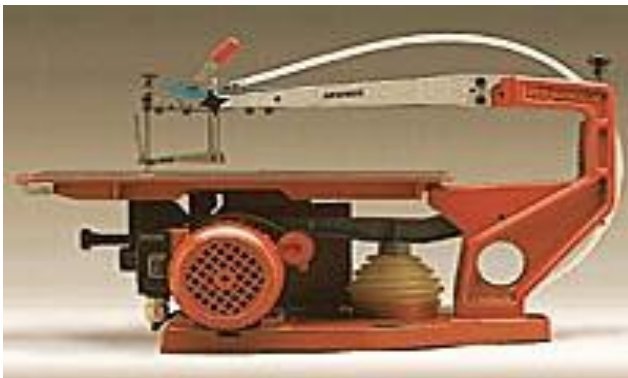
Install new drum and tighten retaining bolt by turning **clockwise**. Insert throat plate with appropriate opening.

Slowly feed work into drum from right to left to avoid sanding drum grabbing work.

**Do not** operate this machine with any type of loose clothing (sleeves) as well as long hair which is not tied up or safely pulled back.



### Scroll Saw



De-tension blade before changing. When replacing blade teeth must be pointing down. After replacing blade adjust tension one full turn after contact is made with end of screw tension adjustment.

This saw is for intricate light cutting and therefore care must be exercised not to overload this saw with heavy cutting or excessively thick material.

## Drill Press

**Do not** operate this machine with any type of loose clothing (sleeves) as well as long hair which is not tied up or safely pulled back.

Correct spindle speed is important generally the smaller the bit the faster the spindle speed.

Adjust table so there is clearance in between tool bit and work piece. There should be enough room to clear out any drill chips if needed.

Work should be **clamped down** or placed in a vise to avoid injury. This is always true for small or odd shaped pieces.

When drilling deep holes back bit out at intervals to clear chips and increase tool efficiency.

Use a backer board if needed **do not** drill into the table!



### Sliding Compound Miter Saw

Make all necessary adjustments as needed be sure that all adjustments are **locked** before using saw.

Material to be cut **must** be held against the back fence.

**Never** hold material to be cut in such a manner that your hand is in line with the potential path of the blade.

When using the sliding feature on the sliding compound miter saw, pull the saw toward you before lowering the blade into the stock.

**Small pieces** of material cannot be cut safely unless they are clamped, mounted or held in place by another larger piece of material.



## Panel Saw

Load material on panel saw in an **easy manner**. Excessive roughness or accidentally ramming a sheet of material into parts of the saw will damage the saw or cause a misalignment when cutting.

When loading material on saw make sure the **carriage** is out of the way. If carriage is not clear the material as it is loaded can damage the blade on impact.

Make all adjustments as required prior to your cutting operation. If further adjusting is needed **turn off** saw before correcting any setup issues. Be sure to **lock** everything down afterward.

Make sure material is **sitting properly** on rollers and back against the fence before starting cut.

When ready to cut turn saw on and always grab the saw by only by the **handle** when performing any cutting.



## Wood Lathe

**Do not** operate this machine with any type of loose clothing (sleeves) as well as long hair which is not tied up or safely pulled back

**Before** turning on machine make sure work is mounted correctly in between centers or is fastened to a faceplate.

When mounting work using a faceplate **do not** over tighten mounting screws. This may strip the screw holes resulting in your work piece being thrown from the lathe.

Adjust tool rest to minimal distance from work piece.

**Always** rotate stock manually to check for clearance before applying power.

Turning tools should be held firmly with **both hands**. One hand on handle and one hand using the tool rest as a guide.



## Table Saw

Table saws can cause injury very easily if precautions and safe practices are not followed.

One of the **main causes** of table saw injuries is failure to push material through and past the blade smoothly.

Always remember to keep hands out of the potential path of the blade. Also the blade may not be visible until the work is passed entirely through! **Keep fingers and especially thumbs clear of blade path.**

**Never for any reason attempt to cut any material freehand.**



## Table Saw Cont.

### **RIPPPING**

When your work piece is longer than it is wide, guide it along the rip fence.

Be certain to keep the edge flat against the rip fence for the **entire** length of the cut.

**NEVER** push on the "waste" side of your stock, the material could crack or split unexpectedly and may result in an injury.



## CROSS CUTTING

**NEVER** use the rip fence as a stop when cross cutting!

When cross cutting push your work piece all the way past the blade. Do not reach for small pieces around blade while saw is running.

Do not cut small pieces, use a miter gauge, sliding table, or other jig to guide your workpiece and keep your hands at a safe distance from blade.

**DO NOT** push on or handle the "waste" or off-cut piece until the saw has come to a complete stop.





## Tablesaw (cont)

**Before** cutting any material **make sure** that the material to be cut is free from any foreign conductive materials (nails,screws,staples,water or high moisture content).

The table saw safety mechanism is triggered when the blade encounters any **conductive material or object**. This results in the saw measuring the new electric imbalance and in turn triggering the safety mechanism.

Make sure material you are going to cut is not excessively warped, this can bind up the blade while cutting.

When getting ready to operate the saw be sure to have at least one straight edge that will ride along the fence, the fence is correctly set and locked down, the blade does not extend up beyond the work excessively , the area which your are standing in is free from debris and table is clear off scraps.

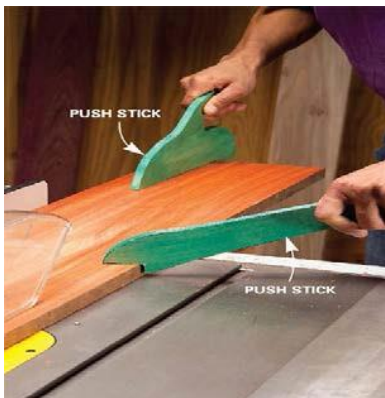
Do not let any part of your person come within 4" from running blade. **Many injuries** occur due to a slip happening while pushing work through the saw.

**Three common situations where injuries occur are as follows:**

- 1).You are pushing the material through the saw, as you get close to finishing the cut your hand slips off the work piece and because you are pushing your hand continues moving forward into the blade.
- 2). You are pushing the material through the saw palm down using your thumb as the pushing source and again as you get close to finishing the cut you get distracted and your thumb is injured.
- 3). This is similar to example number two except the material suddenly splits causing the work and your hand to jump forward possible contacting the blade.

**Using a push stick** can help reduce the chance of injury especially when making small cuts or using narrow strips of material. **Be aware** at all times that even with a push stick if it slips off and you are pushing too hard or to fast the momentum may carry your hand into the blade.

When you are finished, turn off the machine and remain until the blade has stopped. Clear the saw table and floor area of any scrap and discard into waste bins.



## **Spray Booth**

Respirators with organic cartridge filters (not dust masks) **must be worn** by anyone using the spray booth. You will do irreversible damage to your lungs and nervous system through continuous inhalation spray paints and vapors.

**Safety glasses must be worn** in the spray booth area at all times. When mixing, pouring or spraying paint it is not uncommon for a accidental splash to occur.

The spray booth **must be on** when mixing or spraying to exhaust the harmful vapors within the spray booth. If there is any question as to the operation of the booth controls contact model shop personal.

**Do not** bring electric cords, power tools, or work lamps into the spray booth. These may produce sparks which will ignite flammable materials or vapors.

Mix and leave all substances with harmful vapors in spray booth until fully cured. This includes bondo (auto body fillers) and contact adhesives

Spray paint **must not** be stored in the spray booth. Any cans left in booth will be disposed of.

**Do not test paint on walls.**



## **First Aid**

Please report **every** accident to the shop technician, manager or instructor immediately.

**First aid supplies** are available for students and faculty and are located within the model shop first aid cabinet.

Severe injury should be handled in these steps:

1. Assess the situation-make sure that it is safe for you to approach.
2. Call 911
3. **Contact campus safety -1444-** and ask them to escort the EMS personnel to the proper location.
4. Administer first aid...if you are trained to do so.

Recommend the student seek medical attention regardless of the injury.

**Always** file an incident report with campus safety to document the accident.

If the person does not want to wait for EMS; there are several hospitals in the vicinity:

- **Henry Ford Hospital**...Grand River- west of the Lodge Freeway.
- **Detroit Receiving Hospital**...Saint Antoine- south of Warren.
- **Harper Hospital**...John R. - south of Warren.
- **Beaumont Hospital** (Royal Oak)...13 Mile Rd. -west of Woodward.
- **Oakwood Hospital** (Dearborn)...Oakwood Ave. -Oakwood Ave. exit Westbound I-94 -go north on Oakwood.

\*Emergency rooms outside of tend to provide quicker service\*

CCS employees are advised **not to** transport anyone to the hospital due to possibilities of complications or other unforeseen events.

**Blood Borne Pathogens** should be seriously considered when administering first aid treatments...these include HIV viruses that cause AIDS, and Hepatitis B and C viruses.

- To **protect yourself**, Universal Precautions must be observed. Universal precautions mean treating all human blood/fluids as if it was infected, regardless of the person who is injured. It is essential to **wear gloves** when contact is possible. If a blood spill occurs, notify the shop manager, instructor or shop technician immediately.

Unless you have opted out upon registration, all CCS students have accident insurance. Students have 90 days after receiving treatment to turn in the bill with a claim form. Claim forms are available in the Office of Student Life. The insurance company will evaluate the bill and make a payment. The entire amount may not be covered by insurance and students will be responsible for the remaining balance. If students have additional health insurance, they can submit the outstanding bill to that company who may or may not pay the balance. All students with questions regarding insurance should be referred to Michael Coleman @ 313.664.7676 or [mcoleman@ccscad.edu](mailto:mcoleman@ccscad.edu).