

## Safe Work Procedures

Part 1 – Introduction and background.

Part 2 – Standard operating procedures

Part 3 – COVID-19 guidelines (laboratory and field)

Part 1 – Introduction and background

**DO NOT** use this machine unless you have been instructed in its safe use and operation and have been given permission

### PERSONAL PROTECTIVE EQUIPMENT



Safety glasses must be worn at all times in work areas.



Long and loose hair must be contained.



Hearing protection must be worn.



Sturdy footwear must be worn at all times in work areas.



Close fitting/protective clothing must be worn.



Rings and jewelry must not be worn.

- **Unless personally trained by Dr. DeRose, or the lab manager, Ryan Jess, you are not allowed in the lab!**
- **You are only permitted to use pieces of equipment on which you have been personally trained!**
- **Only Ryan or Justin can train individuals to use equipment in the sanding lab.**
- **If you wish to be trained on a piece of equipment, contact Justin DeRose at [justin.derose@usu.edu](mailto:justin.derose@usu.edu).**
- **If any equipment is not functioning properly contact Ryan Jess, [rjess85@gmail.com](mailto:rjess85@gmail.com).**
- **If any supplies (e.g., sanding belts, dust masks) are running low contact Ryan Jess, [rjess85@gmail.com](mailto:rjess85@gmail.com).**

1. This lab does not contain any chemicals hazardous or otherwise.

2. Work with Materials that pose a significant Physical Hazard

OSHA defines physical hazards as a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water-reactive.

#### Other physical hazards include:

- Electric hazards
- Vacuum work
- Cutting, sawing, or grinding

### In case of FIRE

1. If you discover a fire, shout FIRE! FIRE! FIRE! & activate the nearest fire alarm call point by breaking the glass. Immediately notify occupants of that part of the building to evacuate the building.
2. Inform any neighbouring labs and Justin DeRose, [justin.derose@usu.edu](mailto:justin.derose@usu.edu)
3. If the fire has not spread from its point of origin, attempt to extinguish the fire by using the correct fire extinguisher – ONLY IF YOU HAVE BEEN TRAINED IN ITS SAFE USE. DO NOT PUT YOURSELF AT RISK.
4. Do not re-enter the building for any reason until instructed by the Fire Officer that it is safe to do so.

Fire extinguishers are located in the sanding lab, QCNR305/307, and in the BNR hallway around the corner from the sanding lab.

### Part 2 – Standard Operating Procedures (SOPs) specific to this laboratory and associated equipment

- a. Aim:** to assure that hazardous operations specific to the lab are conducted in a prudently safe manner.
- b. Content:** Chemical Hygiene SOPs may be incorporated into general lab procedural protocols or may be written up separately. These SOPs contain 1) the major hazards associated with a task and/or chemicals and 2) controls to avoid exposure. Examples of SOPs can be found in Prudent Practices, chapters 1B, 1C and 1D. A guide to preparing Chemical Hygiene SOPs is available from the Campus EH&S Office.

Examples of procedures or tasks that support implementation of SOPs.

#### 2.1 VERTICAL BANDSAW

- Ensure the guard doors are closed and the blade is properly adjusted prior to turning on the machine.
- Adjust the upper guard assembly to within 1/4 inch of the stock prior to starting the machine. Set the band saw at the appropriate speed for the type of stock being machined.
- Check to ensure the band saw blade is sharpened.
- Check to ensure the band saw is correct for the type of stock and correct speed being used.
- Allow the saw to reach full set speed prior to cutting stock.
- Do not force stock into the saw blade. Let the speed of the blade cut stock appropriately.



- Make “release” cuts before cutting long curves.
- Plan saw cuts to avoid backing out of curves in the stock.
- Never push a piece of stock with hands in front of the saw blade. Use a push stick. Keep hands at a safe distance on either side of the stock being machined.
- Use a push stick or board to push small or irregular sized stock. Small work pieces can also be secured with a tabletop vise or clamp.
- All round stock must be secured in a tabletop vise or clamp prior to starting the cut.
- Hold the stock flat on the table prior to starting the cut.
- If the saw blade binds on a piece of stock, turn the saw off and wait until it comes to a complete stop before attempting to remove the blade from the stock.
- Do not allow large quantities of chips to accumulate around the work piece or drill press table. After stopping the machine, use a brush or rag to remove all excess chips from the drill press table and stock.

## **2.2 COMPOUND MITRE SAW**

### ***RE-OPERATIONAL SAFETY CHECKS***

- ✓ Locate and ensure you are familiar with all machine operations and controls.
- ✓ Ensure all guards are fitted, secure and functional. Do not operate if guards are missing or faulty.
- ✓ Ensure the saw is properly secured to a work table by bolts/clamps at approximately hip height.
- ✓ Ensure the saw is operated on an RCD protected circuit.
- ✓ Check workspaces and walkways to ensure no slip/trip hazards are present.
- ✓ Keep table and work area clear of all tools, off-cut timber and sawdust.
- ✓ Start the dust extraction unit before using the machine.



### ***OPERATIONAL SAFETY CHECKS***

- ✓ Ensure all adjustments are secure before making a cut.
- ✓ Use clamps to secure and support the workpiece to a stable platform. Do not use a length stop on the free scrap end of a clamped workpiece.
- ✓ Before turning on the saw, perform a dry run of the cutting operation to ensure no problems will occur when the cut is made.

- ✓ Avoid reaching over the saw line. Do not cross arms when cutting.
- ✓ When pulling the saw down with your right hand, keep the left hand, especially the thumb, well clear of the line of cut.
- ✓ If workpiece is bowed or warped, clamp it with the outside bowed face toward the fence.
- ✓ After finishing the cut, release the switch, hold the saw arm down and wait for blade to stop before removing work or off-cut piece.
- ✓ Before making any adjustments, disconnect the plug from the power source and bring the machine to a complete standstill.

### 2.3 Down draft air table and air handler



- Air handler and air table should be cleaned before and after each use
- Clean filters with a shop vac in the air table use the handle at the top of the air handler to break dust from filter.
- Both air handler and air table should be used any time that a sander is running.
- Vacuum the top of the air table before sanding cross sections to ensure they don't shift off the table.
- Use pins on the air table to keep cross sections from shifting during sanding.
- Attach hoses as necessary

### 2.4 Power drill (cord or cordless)

- Wear hearing, eye, and hand protection
- Check the drill prior to working, frayed plugs, correct bit, if there are any defects. Do NOT use.
- Select the proper drill bit for the job. Metal, wood and masonry are options.
- Make sure the item you are drilling is properly secured on the table.
- Make sure the cord is long enough to reach from the outlet to the item.
- Make sure the area is free of hazards, including your hair, before drilling.
- Press the trigger before you make contact with the item.
- Maintain trigger until bit is removed from item.
- You may need to periodically pull the drill to remove material until finished.

- When finished clean up and put drill away.

## 2.5 Cleaning up

- ✓ Leave any machine in a safe, clean and tidy state for the next user.

### POTENTIAL HAZARDS AND INJURIES

- ❗ Saw may grab and ‘kick-back’ toward operator.
- ❗ Flying chips and airborne dust.
- ❗ Contact with rotating blade.
- ❗ Eye injuries.
- ❗ Noise.

### ***DO NOT***

- ✗ Do not use faulty equipment. Immediately report suspect equipment.
- ✗ Do not exceed the maximum cut for the machine.
- ✗ Do not cut more than one workpiece at a time.
- ✗ Do not start the saw with the blade touching the workpiece. Allow the blade to reach full speed first.
- ✗ Do not cut branches, dowel, or wood with embedded nails or screws.
- ✗ Do not rip solid timber along the grain.
- ✗ Do not cut ferrous or non-ferrous material.

## Part 3. COVID-19 procedures

### COVID-19 STANDARD OPERATING PROCEDURES

<b>Program:</b>	<b>PI/Lab Director</b>
Contact name:	R. Justin DeRose
Contact email:	<a href="mailto:justin.derose@usu.edu">justin.derose@usu.edu</a>
Contact phone number:	(435)797-0905.
Room numbers:	QCNR 305, 307, 305a, 307

**October 25th 2021 note:** currently this lab has one lead technician, multiple technicians, and multiple graduate students. When more than 1 person is working in the lab social distancing procedures will be followed. All field work COVID plans are detailed for individual projects/students and are on record with the WILD Department (Allison Cochley, [Allison.cochley@usu.edu](mailto:Allison.cochley@usu.edu)). Currently this includes Erika Blomdahl, Allie Trudgeon, Grayson Jordan, and Jaycee Cappaert (including Katheryn Little).

### SPACE AND EQUIPMENT SAFETY

- All workstations in the lab are currently maintained at a distance of more than 6 feet.
- Workstations and associated tools/materials are designed, and projects are undertaken in such a way that only one user can work

## DeRose laboratory safety (updated October, 2021)

- Each worker is assigned to disinfect their work area and equipment before and after each use
- In field going activities, we will follow USU guidelines for vehicle occupancy (<https://www.usu.edu/covid-19/>), will require masks to be worn in vehicles with >1 person, and will assure that the vehicle is well-ventilated.

### **PERSONAL HYGIENE AND PPE**

- Signage is posted indicating that workers need wear face coverings when there are 2 or more people in the lab
- Washing hands on arrival, at beginning and end of breaks, and at the end of the shift is required
- Gloves and hand-sanitizer is provided in the lab.
- Proper disposal of associated PPE is provided

### **TIME MANAGEMENT**

- Currently, only 1 technician is working in the lab. In the case another is hired OR a graduate student is also in the lab, schedule shifts to best accommodate social distancing (i.e., schedule work at different times).
- The lab technician has been designated to assign shifts if and when more than 2 people are working in the lab.

### **WORKER HEALTH**

- DeRose oversees COVID-19 SOP training and communication plan for lab workers and graduate students
- No in person meetings are being held until further notification
- Workers are encouraged to make a daily [symptom](#) self-assessment
- Workers will wear face coverings when in shared or public spaces
- If you are infected and have been in the workspace, contact your supervisor and/or Department Head and USU Risk Management for guidance on implementing a shut-down to deep clean the workspace and quarantine those who may have been exposed for a 14-day period. Infected persons will complete a [COVID-19 Questionnaire](#).