



TEXAS TECH UNIVERSITY
J.T. & Margaret Talkington College of Visual & Performing Arts
School of Art™

3D DESIGN STUDIO GUIDE & SAFETY PLAN

Rooms Covered – Annex 3D Annex 105

Responsible Individual – William Cannings 742-3825, office Annex 3D Annex 109A

Department Safety Officer – Mark Bond 834-1559, office Art 101

November 2, 2017

Emergencies

In case of fire exit the building through the doors near the vending machines. If that direction is blocked, exit through the front doors or the woodshop. Meet out in front of the Physical Plant next door towards the Rec Center. There are fire alarm pull stations near the exit doors, if you pull it also call 911 to inform them of the situation.

In case of an Active Shooter lock the hallway door, turn off the lights, hide out of sight and remain quiet. If you know the shooter is in your immediate area barricade the door with anything you can to prevent or slow entry and call 911. Silence your phone but check it or your email for instructions from TechAlert! Wait until there is an “all clear” announcement from TechAlert! before leaving, do not rely on social media for information.

In case of a medical or security emergency call 911, or use the blue emergency call box located in the hallway on the near the classroom doors.

In case of a tornado or severe weather go to the center hallway or into the restrooms.

Chemical Spills -

Small chemical spills can generally be handled in the studio with the spill containment kit. Spill containment kits are clearly marked and are under the sinks. Spills should be handled in the following manner:

1. Assess the need to evacuate the lab /studio.
2. If you don't know what the chemical is, call Environmental Health and Safety (EH&S) **(806) 742-3876** (during regular business hours) or **(806) 742-3328** (after hours).

3. Look up the chemical in Safety Data Sheet (SDS)
4. If you feel confident following the cleanup instructions on the SDS proceed with cleanup.
5. If you don't feel confident or don't have the materials on hand for cleanup, because the spill is too large, call EH&S.
6. Report all spills that need more than paper towels cleanup to the SOA DCHO mark.bond@ttu.edu. He will arrange for waste pickup.

First Aid

1. There is an eyewash stations in room 105. If you get irritating chemicals in your eye immediately splash water in your affected eye(s) for fifteen (15) minutes unless otherwise instructed. If you get foreign matter lodged in your eye (metal, wood, etc.) do NOT rub your eye! The eyewash station may not dislodge something stuck in your eye; you will need to go to the emergency room in that case.
2. The First Aid kit is near the hallway door and clearly marked.
3. There are two kinds of burns that need attention:
 - a. **Minor cuts / burns** – can be attended to in the lab/studio. (examples – cuts that are not deep and stop bleeding and burns without large blisters) Minor cuts should be cleaned with antiseptic spray, alcohol wipes, or triple ointment. Cover them with a sterile Band-aid. Minor burns should be immersed in cool (not cold) running water for 15 minutes. Then apply a sterile bandage. Do not apply ice or ointments. If the wound does not heal properly seek medical attention.
 - b. **Major cuts / burns** - these are deep cuts or burns that will need IMMEDIATE medical attention. (examples – cuts pulsing blood or will not stop bleeding, or more than ¼” deep or with jagged edges) Major burns develop large blisters or char the skin. Major cuts should have pressure applied with a clean compress. Major burns should NOT be immersed in cool water, but covered with a clean compress and held above heart level if possible. In both cases, seek immediate medical attention.

When in doubt, always seek professional medical attention – use the blue emergency box or dial 911.

The complete Texas Tech University Chemical Hygiene Plan and other helpful documents can be found online at <http://www.depts.ttu.edu/ehs/Web/Default.aspx>

Records of Employee / Student training are located in the School of Art main office.

Introduction

We at the School of Art endeavor to create a safe, healthy environment for all to work in so they can have a long and productive creative life. The following information will help you achieve these goals. Failure to follow the safety policies and procedures may lead to disciplinary action.

Be aware that words such as “water based,” “all natural,” and “organic” or “green” do not indicate the safety of a material. There are many items in nature that are hazardous to humans. Art supplies and materials may be “non-toxic” when “used as directed” but can become hazardous when not used as directed, such as heating, sanding or spraying the material.

Personal safety is usually more of an issue when fewer people are around in the evenings and weekends. Always be aware of your surroundings, know who is around you or not, keep your ears open by keeping music low and not using headphones. When working with machinery or hazardous processes always have more than one person present. Do not work when impaired by lack of sleep, illness, drugs or alcohol. All the buildings have combination locks on at least one door, so never prop open exterior doors to help keep unauthorized people out. Classroom doors can remain open during class time and when the room is occupied by an authorized person. The door leading into the woodshop can remain unlocked during class time, but cannot be kept open because it is a fire door. Doors must be kept locked when the room is not occupied.

General rules

All students must have signed the Student Safety Training Form BEFORE they can participate in any hands on studio / lab activities.

The Safety Data Sheets for this studio are located next to the door in the yellow binder.

Chemicals and materials not listed in the Safety Data Sheet yellow binder cannot be stored or used in this lab without the consent of the Responsible Individual and the Safety Data Sheets being added to the SDS binder.

Any container other than the original container a chemical comes in is considered a “secondary container.” This includes open containers such as trays. Food or drink containers cannot be reused as secondary containers. All secondary containers (including water), **must be** labeled according to the OSHA GHS standard. The safety coordinator can answer GHS labeling questions. The RI will provide appropriate secondary containers.

No spraying may be done in this room. For approved locations contact your instructor.

All flammable and combustible liquids and gasses must be stored in the yellow flammable cabinet when not in use. After class, or any work sessions all flammables and combustibles **must be** returned to flammable cabinets. Lockers or open shelves are not acceptable storage for flammable or combustible liquids or gasses. NO EXCEPTIONS!

All solvents and corrosives **must be** barcoded into the inventory system by Environmental Health and Safety, including any that are student purchased. For details contact the SOA Safety Coordinator.

Procedures that are not listed in the Standard Operating Procedures section cannot be used without consent of the Responsible Individual and until the new procedures **have been added** to this Safety Plan.

Food and drink are not allowed to be stored or consumed in this room.

No tobacco use is allowed in the studio, including smoking, vaping and smokeless tobacco.

Long pants are required and closed toe shoes are required in this room.

Housekeeping is to be kept up with to provide a safe work space. Aisles and exits are to be kept free of slip, trip and fall hazards. Bench tops are to be free of excess storage and clutter. Extension cords can only be used temporarily and must be picked up at the end of class or work periods.

Sharp objects, such as xacto knife blades, utility knife blades and saw blades must be disposed of in an approved “Sharps” container, never the regular trash.

Art Installations must be pre-approved by the Safety Coordinator if they involve public spaces. If in doubt, ask first.

Never stand on anything other than a ladder or stepstool to increase your reach. Climbing on chairs, stools and tables frequently leads to falls and injuries.

Do not hang anything from any pipes, sprinkler heads or conduit. You may hang objects of less than one pound from suspended ceilings. If you need to hang multiple objects get approval from the Building Manager first.

No bicycles, skates, roller blades, skateboards, scooters, etc., are allowed in buildings.

Pets and animals are not allowed in buildings. Service animals for persons with disabilities are permitted as long as they are in compliance with section 7 of TTU OP 34.22.

Children are not allowed in Studios / Labs without Minors in Laboratory forms filled out and approved in advance.

No smoking inside the building, including e-cigarettes or vaping, or within 20 feet of any doorway. No alcohol or illegal drugs in any Studios / Labs.

Wash hands upon leaving the studio.

Standard Operating Procedures

Hand Tools (general)

Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazards posed by hand tools results from misuse and improper maintenance.

When using hand tools, the following apply:

- Use proper eye protection (safety glasses, goggles or face shield).
- Use the right tool to complete a job safely and efficiently.
- Before using a tool, be sure it is in clean and good condition
- Make sure saw blades, knives, or other tools are directed away from aisle areas and anyone working in close proximity.
- When using knives, always cut away from your body.
- Keep knives and scissors sharp; dull tools can be more hazardous than sharp ones.
- Around flammable substances, use spark-resistant tools made from brass, plastic, aluminum, or wood.
- Replace or repair all wooden handles that are loose, splintered, or cracked.
- Do not use impact tools such as chisels, wedges, or drift pins that have mushroomed heads.
- Do not lay tools down at the edge of a workbench. Do not lay tools where they could roll off, where someone could bump or trip over them.
- When you are finished with the tool, return it to the tool room or tool cabinet. Do not leave tools lying around.
- Only use a tool if you know how to use it properly. If you are unsure, check with the professor or studio supervisor.
- Report any tools that are defective or in unsatisfactory condition to the professor or studio supervisor.

3 in 1 machine

- Before using the 3 in 1 machine take a minute to refresh yourself with all of its accessories and functions. If anything is not familiar you must ask either the professor or studio supervisor
- Determine that the surrounding area is clean and clear and free of anything that could interfere with your operation of the machine. Make sure that the people working around you are aware of what you are about to do and are an appropriate distance away before operating the 3 in 1 machine.
- Wear the appropriate PPE, safety glasses, protective gloves, pants, and sturdy footwear.

Overview

- The 3 in 1 machine is design to be used with light gauge sheet metals (20 gauge and thinner). It incorporates a slip-roller, shear and manual sheet metal brake into one machine. You can potentially crease, curve and cut light gauge metal on this machine.
- There is a limitation in the size of material you can use in terms of height, width and thickness. The maximum dimensions of this machine are written on the red metal tab fixed to the top. Please be advised that cutting metal thicker than this dimension can result in personal injury and/or a mechanical failure in the machine itself.
- Verify that the 3 in 1 machine is firmly locked down using the screw pad on the lower frame before performing any operation.
- All of the machines actions happen simultaneously in different locations and are all driven by one mechanical lever arm. Keep this in mind when manipulating the lever arm
- Before beginning any work on this machine be sure of these things:
- That the machine is secured in place and that all functions are operating smoothly and correctly.

- That any safety guards are firmly in place and secured
- That your posture and stance are correct for applying the force necessary to perform your operation. This includes being prepared for the sudden release of pressure when the operation is complete
- That you have identified all dangerous areas of the tool and are prepared to keep your hands and other body parts a safe distance from these points
- That you know how you will react if something makes you uncomfortable during operation of the machine
- Metal sheet stock is the material this machine is designed to use. Steel, aluminum, and any other bendable sheet stock is permissible to use on the 3 in 1. 20 gauge is the thickness limit.
- An understanding of the machine will show you that all 3 operations are manipulated at once when turning the lever arm. Care must be taken to be sure nothing is in the machine in a way that could interfere with the moving parts. This is very important.
- When done, return the machine to the state in which you found it and make sure to clean up the surrounding area completely.

Sculpture Spray Booth

- Exhaust Fan must be turned on before using the spray booth.
- Door must be closed while in operation.
- Do not eat or drink in the spray booth.
- Wear the appropriate level of PPE for the task at hand. This could include, nitrile gloves, eye and ear protection, and respirator (if approved and certified by the EH&S)
- Mask any areas to protect from overspray. Use the provided brown paper.
- Follow the SOP when using compressed air.
- Leave the exhaust fan running for a minimum of 5 minutes after you have completed your task. Once the air is clean in the spray booth you can move your work to the prep room 111 for drying.
- Clean up thoroughly when you have finished. Sweep or vacuum, throw out used rags and masking, use the blue trashcans.
- Turn off the exhaust fan and the lights and close the door before leaving.

Electric Grinders

- Portable grinders are difficult to handle because of their size and weight. Extra care is needed to avoid injury and to protect the grinding wheel from damage. When using portable grinders, observe these precautions:
- Wear appropriate clothing such as, safety glasses or a face shield and gloves.
- Guard against electric shock. Make sure that the cord is in good shape. Do not use the grinder in the rain or in damp conditions.
- Make sure that any guards are in place before turning the machine on.
- Inspect the grinding wheel or other attachments for chips, cracks, or loose parts.
- Do not use damaged wheels or attachments. Make sure that the attachments are rated for the RPM that the grinder will produce.
- Make sure that adjusting keys or wrenches are removed before turning the grinder on.
- Warn other people in your work area before you start grinding. Make sure that everyone within range is wearing eye protection.
- Secure the item you are working on in a vice if at all possible. Avoid holding small items in your hands. Use clamps where possible.

- Do not force the tool into the work it may “kick back” violently.
- Make sure that the grinder is unplugged before changing wheels or attachments.
- Let the grinder come to a complete stop before laying it down.
- Clean and Tidy the work area.
- Clean and return grinder to the tool room.

Bench Vise – General

- ALWAYS make sure the workbench top is secure.
- ALWAYS use eye, face, and ear protection, as required with the task.
- ALWAYS keep moving parts lubricated with multipurpose grease.
- ALWAYS keep workpiece centered in jaws. Uneven clamping pressure across jaws could damage vise.
- DO NOT over tighten jaws or lockdowns, damage to vise or work piece could result. TIGHTEN BY HAND ONLY.
- DO NOT unscrew jaw beyond maximum opening.
- DO NOT place pressurized containers in vise.
- DO NOT use extreme heat or prolonged heat on vise.
- DO NOT strike any part of vise; permanent damage could result.
- Report any malfunction or damage to the professor or studio supervisor.

C-Clamps

- Place the object on a smooth surface; position the clamp so that the “C” is surrounding both the surface and the object.
- Turn the Handle until the objects are squeezed/clamped together.
- Ensure that the clamp is tightly secured
- Check frequently to see if the object is still secure
- Avoid catching fingers and clothing when tightening clamp.
- Avoid dropping clamp on floor or toes
- Return the clamp to the tool room or tool closet when finished.

Cordless drill

- Wear the appropriate PPE, safety glasses, leather gloves, and sturdy footwear.
- Ensure you have a suitable safe work area
- Examine the drill and battery for obvious damage, inform the professor or studio supervisor
- Do not use dull or damaged drill or driver bits
- Check the correct drill or driver bit is correctly fitted
- Avoid wearing loose clothing that may cover your hands
- Keep fingers, hands, clothing and hair well clear of the rotating drill chuck, drill bit, or drill driver
- Beware of hot drill bits caused by friction or abrasion
- Securely clamp your project to a stable work surface
- Allow the drill to reach operating speed, then apply load gradually. Do not apply excessive force.
- Be cautious of drilling too close to edges and corners
- Leave the workbench, work area, and cordless hand drill clean & tidy.
- Return the Battery for recharging if it is low.

Dremel Rotary tool

- Wear PPE as needed for working, safety glasses, dust mask, protective gloves, and sturdy footwear.
- Visibly check the tool and power cord for damage, inform the professor or studio supervisor if you suspect or find a problem.
- Secure your project or work piece in a vice or using clamps
- Do not hold your work with your hands
- Secure all tooling in collet and recheck tightness during your work time.
- Ensure power cord is clear of any moving parts and cutting/grinding/carving area.
- Be considerate of those working around you, the Dremel can potentially create a lot of noise and dust.
- Work in a well ventilated area
- Clean the Dremel and work area when you have finished
- Return tools to the tool room or tool cabinet.

Hammers (General)

- Wear appropriate personal protective equipment such as safety footwear and safety glasses.
- Ensure the work area is clear of debris.
- Ensure there is adequate lighting in the work area.
- Keep your fingers away from the striking area.
- Do not use any tools if you feel drowsy or unwell.
- Do not wear loose clothing, jewelry or long, loose hair while using a hammer.
- Inspect the hammer for damage prior to each use.
- Do not use any broken or unsafe tools - inform the professor or studio supervisor.
- Do not use a hammer with a loose or damaged handle.
- Do not use a handle that is cracked, broken or loosely attached to the head.
- Do not use a hammer head with cracks, chips, mushrooming or excessive wear.
- Do not use a hammer with cracks in the claw or eye section.
- Do not use a hammer for a purpose for which it was not designed or intended.
- Do not use one hammer to strike another hammer.
- Do not redress, grind or weld a hammer-head.
- Do not strike an object with the side or cheek of the hammer.
- Select a hammer that is comfortable for you.
- Select a hammer that is the proper type, size and weight for the job.
- Select a hammer with a striking face diameter that is approximately 12 mm (0.5 inches) larger than the face of the tool being struck.
- Ensure the head of the hammer is firmly attached to the handle
- Look behind you and above you before swinging a hammer.
- Watch the object you are hitting.
- Hold the hammer with your wrist straight and your hand firmly wrapped around the handle.

- Strike a hammer blow squarely with the striking face parallel to the surface being struck. Always avoid glancing blows and over/under strikes.

Hand Saws

- Wear appropriate personal protective equipment such as safety footwear and safety glasses.
- Ensure the work area is clear of debris.
- Ensure there is adequate lighting in the work area.
- Keep your fingers away from the cutting area.
- Use a saw handle that keeps your wrist in a natural position in the horizontal plane.
- Protect the teeth of the saw when not in use.
- Keep hacksaw blades clean and lightly oiled.
- Do not operate any equipment if you feel drowsy or unwell.
- Do not wear loose clothing, jewelry or long loose hair while using a saw.
- Do not apply too much pressure on the blade as the blade may break.
- Do not twist when applying pressure.
- Inspect the saw for damage prior to each use
- Do not use any broken or unsafe equipment inform the professor or studio supervisor
- Select a saw with the proper shape and size for the stock being cut.
- Select a saw with the appropriate number of teeth per inch (TPI) for the stock being cut and the desired finish.
- Select an appropriate blade for the material being cut (e.g. wood, plastic, metal, etc).
- Ensure the blade is sharp and clean.
- Ensure the blade is securely mounted.
- Ensure the blade is in good condition; no nicks, cracks or missing teeth.
- When using a hacksaw ensure the teeth are pointing forward.
- Check the material for any defects such as knots and foreign objects such as nails, staples or screws; remove metal objects.
- Be aware of sawdust or other debris from cutting the material.
- Ensure the stock is firmly in place. Use a clamp or vise as required.
- Start the cut by placing your hand beside the cut mark with your thumb upright and pressing against the blade. Start the cut carefully and slowly to prevent the blade from jumping. Pull upward until the blade bites.
- Start with a partial cut and then set the saw at the proper angle.
- Apply pressure on the downward stroke (i.e. away from you) only.
- Cut using steady strokes.
- Use the entire length of the blade in each cutting stroke.
- Cut harder material more slowly than soft material.

Hot glue gun

- Examine the power cord and tool for obvious damage.

- If the heating element does not work inform the professor or studio supervisor
- Ensure that the cord does not create a slip/trip hazard.
- Ensure the workspace is well ventilated.
- Never leave the tool unattended when turned on or still hot. Leave unplugged when not in use.
- Keep fingers clear of the extremely hot tip and molten glue.
- Always wear safety glasses and leather gloves that are resistant to hot temperatures to protect against burns.
- During use, keep the gun in a position where it will have no contact with objects that easily catch fire. It is best placed on a support stand with the nozzle facing down.
- When placed on the support stand, place a material such as cardboard below the tip to help catch any molten glue that drips from the tip. The gun should never be placed on its side as the hot tip or molten HMA glue can cause a fire.
- Avoid prolonged use. This could overheat the tip element causing it to fail.
- Turn off and wait until the tip element has completely cooled before storing the glue gun away correctly.
- Leave the work area in a safe, clean, & tidy condition.

Hot wire foam cutter, hot knives

- The hot-wire foam cutter is a tool used to cut polystyrene foam and similar materials. This device consists of a thin, taut metal wire, often made of nichrome or stainless steel, or a thicker wire preformed into a desired shape, which is heated via electrical resistance to approximately 200°C. As the wire is passed through the material to be cut, the heat from the wire vaporizes the material just in advance of contact.
- Wear safety glasses, and use leather gloves at all times while using foam wire cutter.
- Always know where the power off switch is located in case of emergency.
- Always turn switch to off position when not in use.
- Always disconnect the foam wire cutter from the power source before servicing, repairing, or making any adjustments.
- Keep hands a safe distance away from the heated wire while in use.
- Never touch the wire when the machine is on.
- Work in a well-ventilated area when using this device – fumes are toxic.
- Do not use the device near combustible materials.
- Wear nonflammable protective garments that cover arms and legs to prevent burns.
- Do not wear loose clothing, as they could come into contact with the heated wire.
- Tie up long hair or wear protective hair covering to prevent hair from coming in contact with the heated wire.
- Clean the machine and workspace when finished.
- Return machine to its appropriate location.
- Report any malfunctions/damage/concerns to the professor or studio supervisor.

Pliers and wire cutters

- Wear personal protective equipment that is appropriate for the hazards you may be exposed to while performing the required task.
- Ensure there is adequate lighting in the work area.
- Oil pliers and wire cutters regularly. A drop of oil on the hinge will make the

tool easier to use.

- Do not use any tools if you feel drowsy or unwell.
- Do not wear loose clothing, jewelry or long loose hair.
- Do not use any broken or unsafe tools, report to the professor or studio supervisor
- Do not cut hardened wire unless the pliers or wire cutters are specifically manufactured for this purpose.
- Do not bend stiff wire with light pliers. Needle nose pliers can be damaged by using the tips to bend large wire. Use a sturdier tool.
- Do not use pliers as a hammer.
- Do not hammer on pliers or wire cutters to cut wires or bolts.
- Do not extend the length of handles to gain greater leverage. Use a larger pair of pliers for gripping or a bolt cutter for cutting.
- Do not use cushion grip handles for jobs requiring tools with electrically insulated handles. Cushion grips do not protect against electric shock.
- Do not use pliers on nuts and bolts; use a wrench.
- Select pliers or wire cutters that are the proper type and size for the job.
- Use side cutting (Lineman) pliers to grip, splice or cut wires, and strip insulation.
- Use long nose pliers to grip small objects, reach awkward places, holding wires, bend loops and attach wires.
- Use utility pliers to grip round, square, flat and hexagonal objects.
- Use diagonal cutting pliers to cut and skin wires, cut and remove pins, nails and other fasteners.
- Use flat nose pliers to grip, turn and bend wires.
- Use slip joint pliers to adjust nuts or bolts.
- Use end cutting pliers to cut wires, nails or rivets close to work.
- Ensure the cutting edges are sharp. Dull and worn cutting edges require more force to cut material.
- Avoid pinching your fingers between plier jaws.
- Pull on pliers; do not push away from you when applying pressure. If the tool slips unexpectedly, you may lose your balance or hit your hand against something.
- Cut material at right angles.

Pneumatic Power Tools

- Never carry a tool by the air hose.
- Never yank the air hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and, sharp edges.
- Disconnect tools when not using, before servicing, and when changing accessories such as blades, bits, and cutters.
- Keep all observers at a safe distance from the work area.
- Compressed air guns should never be pointed toward anyone. The user should never “dead-end” it against him or herself or anyone else.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying tools.

- Maintain tools with care
- Be sure to keep good footing and maintain good balance.
- Damaged or broken portable air tools, you should inform the professor or studio supervisor
- Appropriate PPE must be worn to protect against hazards that may be encountered while using pneumatic tools. Eye protection is required and face protection is recommended.
- Pneumatic power tools shall be secured to the hose.
- Do not use air hoses to lower or raise tools.
- Keep the lines and connections in good condition.
- Use right size equipment for the job being done.
- When changing bits, sockets, or attachments, the hose shall be disconnected.
- Pneumatic tools that shoot nails, rivets, or staples, and operate at pressures more than 100 pounds per square inch, must be equipped with a special device to keep fasteners from being ejected unless the muzzle is pressed against the work surface.
- Keep your work area clean and tidy.

Power Tools (general)

- Power tools can be extremely dangerous if they are used improperly. Common accidents associated with power tools include abrasions, cuts, lacerations, amputations, burns, electrocution, and broken bones.
- When working around power tools, you must wear the necessary personal protective equipment (PPE) and avoid wearing loose clothing or jewelry that could catch in moving machinery.
- Operate power tools only if you are trained and familiar with the tool.
- Inspect all power tools and cords before using them. They should be clean and in good condition. Do not use a tool if the cord is damaged or loose.
- Make sure the work area is well lit- do not use the power tool if you cannot see the work area clearly.
- Make sure the tool is off before plugging it into a power source.
- Do not distract or disturb anyone who is using a power tool.
- Ensure that cords and hose are not posing a tripping hazard.
- Do not use power tools near areas of water.
- Report any tools that are defective or in unsatisfactory condition to the professor or studio supervisor.

Screwdrivers

- Wear appropriate personal protective equipment such as safety footwear and safety glasses.
- Ensure the work area is clear of debris.
- Ensure there is adequate lighting in the work area.
- Do not use any tools if you feel drowsy or unwell.
- Do not wear loose clothing, jewelry or long loose hair while using a screwdriver.
- Do not use any broken or unsafe tools, inform the professor or shop supervisor
- Do not lean or push on a screwdriver with any more force than is necessary to maintain contact with the screw.
- Do not hold the stock in one hand while using the screwdriver with the other hand. If the screwdriver slips out of the slot, it could cut your hand.

- Do not hammer screws which cannot be turned.
- Do not grind the tip of the screwdriver to fit all sizes of screw heads.
- Do not try to use a screwdriver on a screw head for which it was not designed.
- Do not use a screwdriver for prying, punching, chiseling, scoring, scraping or stirring paint.
- Do not use pliers on the handle of a screwdriver for extra turning power.
- Do not expose a screwdriver blade to excessive heat. Heat can affect the temper of the metal and weaken the tool.
- Do not use a screwdriver to check if an electrical circuit is live.
- Do not carry screwdrivers in your pockets.
- Do not use a screwdriver for a purpose for which it was not designed or intended.
- Select a screwdriver that is the proper type and size for the job. The tip of a slotted screwdriver should be the same width as the screw head.
- Ensure the material or stock is secure. Use a clamp or vise as required.
- Position the screwdriver directly over the screw being driven.
- Apply enough pressure on the screwdriver to maintain contact with the screw.

Soldering Iron

- Wear the appropriate PPE, safety glasses, pants, and sturdy-shoes.
- Examine the power cord and iron for obvious damage inform the professor or studio supervisor.
- Ensure that the cord does not create a slip/trip hazard
- Ensure the workspace is well ventilated to prevent fumes in the breathing zone e.g. use, in open area with cross ventilation or with fume extraction system
- Check condition of soldering tip. Replace if damaged.
- Ensure tip is 'tinned' & free from waste build-up. Once the tip has warmed-up, wipe on a damp sponge to clean
- Leave the soldering iron in the stand when warming up
- Never leave a soldering iron unattended when turned on or still hot. Leave unplugged when not required.
- Never touch the soldering tip. Keep your fingers clear.
- Avoid positioning your head directly over the soldering process. Soldering often creates fumes that can be toxic.
- Avoid prolonged use. This could overheat the tip element causing it to fail or oxidize
- Always allow the soldering iron to reach the desired temperature. This can take several minutes
- Ensure electrical cords are well clear of the soldering process. Do NOT touch electrical cords with the tip
- Wash your hands after using solder – many soft solders contain toxic lead products.
- Never leave the machine unattended when still switched ON or when switched OFF but still HOT.
- Turn off and wait until the tip element has completely cooled before storing the machine away correctly.
- Never flick the iron to remove excess solder.

Step Ladder

- Use the step ladder on a smooth and stable surface only
- Whenever possible have a second person or “spotter” to keep the step ladder secure and stable.
- Never use the top step to stand on – this is very unstable/unsafe.
- Never move a stepladder with tools or other materials resting on the top step or other steps.
- Do not place platforms between step ladders unless the step ladders and platform are designed to be used together and will lock in place.
- Report any malfunctions/damage/concerns to the professor or studio supervisor.

Vacuum Cleaner

- Do not leave appliance when plugged in.
- Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, inform the professor or studio supervisor.
- Do not pull or carry by cord, close a door on cord, or pull around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaced.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce airflow.
- Keep hair, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Do not use without dust bag and/or filters in place.
- Turn off all controls before unplugging.
- Do not use to pick up any liquids, flammable or combustible liquids such as gasoline or use in areas where they may be present.