

Metalworking and Jewelry

Useful Phone Numbers:

Local Emergency Response: 911
University Public Safety EMERGENCY: x5511
University Public Safety NON-EMERGENCY: x4100

General Safety guidelines:

1. If you have questions about a material, check the MSDS sheet before using it.
2. Always substitute safe materials for hazardous ones and always use proper precautions.
3. No eating and drinking in the studio; it can be hazardous – dust settles everywhere, especially on your food and in your drinks; vapors can be absorbed by sandwiches, and chemicals on hands can be inhaled while smoking – heat can convert some chemicals into more hazardous forms.
4. Understand and recognize your physical and emotional limitations. When working you should be alert, aware and responsive to any eventuality. Decreased awareness due to fatigue or hunger can lead to accidents. If you are tired or on medication do not attempt any operations that require finesse and concentration.
5. Keep studio clean and free of hazards.
6. Use ventilation, eye protection, and ear protection when required.
7. If you need eye correction do not work without your glasses or contacts.

Metalworking and Jewelry Studio Guidelines:

1. The tools and equipment in the Jewelry/Metals Studio are for use by those students who are currently enrolled in a course in this area. Exceptions to this policy can be made only through permission of the area faculty members.
2. Equipment in the Jewelry/Metals studio is to be operated only when one is alert, rested and focused. Under no circumstances should you attempt to use machinery when your judgment is impaired, under the effects of medication, drugs or alcohol, or when suffering from lack of sleep.
3. Absolutely no equipment or tools should be operated without: a. prior instruction, b. the use of appropriate safety gear, and c. adherence to safety measures and proper procedures (See information in next section).
4. Make sure that each process is done correctly with no shortcuts.
5. The use of all power equipment and machinery requires the following: tie back hair, secure loose clothing, remove dangling jewelry, wear safety glasses/goggles, wear proper personal protective equipment if appropriate, check that all safety guards and tool rests are secure and in place, and make sure the work area is clean, dry and the floor not slippery.

6. Jewelry/Metals students are required to purchase and maintain the following personal safety equipment: safety glasses/goggles, personal protective equipment, and chemical resistant nitrile or latex rubber gloves. The area maintains ear protection and extra safety goggles.
7. All accidents, injuries or chemical spills must be reported immediately to the instructor or person in charge. A list of telephone numbers and procedures for Fire and Emergencies is posted at the front of the studio and should be consulted in the event of any mishap.
8. Shoes that protect feet (no sandals) should be worn at all times.
9. If you are pregnant, seriously consider leaving the metalworking and jewelry studio for the duration of your pregnancy. A pregnant woman transfers chemicals easily to the fetus and the fetus is very susceptible to things including, but not limited to metal dusts, solvents, other chemicals, metal salts and oxides. Check with your own physician for their recommendations in your specific case if you are pregnant.

Metalworking and Jewelry Studio Safety and Emergency Procedure Guidelines:

1. **Gas Leaks** - In the event that you smell leaking gas, do not turn on lights or operate equipment in the studio. Notify the faculty member, or call Public Safety x 5511. If unable to identify the source, then notify the art office (if during business hrs.) and Public Safety.
2. **Fire** - 1. Pull Fire Alarm. 2. Contain or fight fire only if you are trained. 3. Evacuate yourself and others from the area and/or the building. [Fire extinguisher training is available online at:](#)
3. **Medical Injury** - Call Emergency 911 to request ambulance
4. **Burn Procedure** – immediately put burned skin under COLD running water and keep it there for at least 10 minutes and at the same time have someone call Public Safety (x4100) to ask for assistance.
5. **Storage and Handling of Acids, Chemicals and Flammable Solvents** – Acids, chemicals and flammable solvents require storage in the plating room in approved containers and cabinets. Handle substances with care, observing safety precautions wearing: eye protection and chemical resistant rubber gloves. Any mixing of acids and/or chemicals must take place in the ventilated acid booth or under the ventilation hood in that room. All mixtures must be properly labeled and never left unattended. When solution is exhausted, package in approved container, label accurately for later pick-up to be coordinated by University Safety Office. Note: In mixing acids, always add acid to water! Aerosol sprays are to be used in vent hood upon clean newspaper. Wear appropriate personal protective equipment, safety glasses and clean up after yourself.
6. Students should take note of the **location** of the following: **First Aid kit** (blue box in front of room at white board). **Fire extinguisher** (on west wall next to computer).

Glossary of Safety Gear required for Use in Specific Work Areas and Summary of Safety Precautions for Jewelry/Metals Studio:

Abrasives Area - Use safety glasses and appropriate personal protective equipment when operating machinery and sandblaster. In using grinder, make sure tool rest is tight and secure, and that eye guards are in place. Tie back hair, secure loose clothing and remove dangling jewelry.

Acid/Plating Room - Wear safety glasses, and chemical resistant gloves when handling acids and chemicals. . Floor must be dry when working with rectifier and liquids to avoid electrical shock. Rectifier should be turned off when handling anodes or articles placed in the bath. Ventilation should be on when plating, anodizing, or etching.

Buffing Area - Wear safety glasses when using buffing machines and make sure acrylic eye guard is down and machine ventilation is turned on. Tie back hair, secure loose clothing, and remove dangling jewelry. Check for ventilation dust build-up periodically.

Casting Area - Wear appropriate personal protective equipment when mixing investment. Turn on ventilation during burn-out and casting to vent fumes. Wear medium/dark green filtered glasses when using casting torch to avoid retinal damage..

Power Equipment - (Band saw, Scroll saw, Belt Sander, Drill Press, Flex Shafts, Grinder, Machine Lathe, Polishing Machines) Wear safety glasses, tie back hair, secure loose clothing, remove dangling jewelry. Make sure work is held securely to tool rest or work surface and that blade guards are set as low as possible to accommodate work and protect you. If servicing power machinery, always unplug from electrical source. When using the drill press or flexible shaft you must remove the chuck key before turning on the power!!!

Torches - Do not attempt to change acetylene tanks. Ask a faculty member to do this. Furthermore, do not use the oxyacetylene casting torch unless you have had instruction on the proper procedures for turning on and shutting down tanks.

REVIEW:

Machines, equipment and processes requiring eye protection:

- Drilling- drill press, flexible shaft... REMOVE CHUCK KEY before turning on power!!!
- Working with caustic chemicals- etching, plating, anodizing
- Polishing machine
- Casting – welding goggles
- Belt sander
- Grinder

- Lathe
- Sand blaster
- Scroll saw
- Band saw

Machines, equipment and processes requiring ventilation:

- Working with all chemicals, resins, etc.
- Soldering
- Patination
- Polishing (machine ventilation)
- Casting and Burnout kilns
- Working with pitch

Ear protection should be worn if forging over a prolonged period

Do not help anyone working on a machine and do not sneak up on anyone at a machine.

No one is to use tools, power equipment or torches in the Jewelry/Metals studio unless he/she has had prior instruction from faculty member!!

Be smart, work calmly and steadily, think and be conscious.