

Keeland Design Lab Safety Guidelines:

Hours of Operation:

Monday – Friday, 9:00 am – 8:30 pm

Appointments are required to access the Keeland Lab. Appointments can be made at uh.mywconline.net. Only current students of the College of Architecture and Design at the University of Houston are allowed to use the Keeland Lab facility.

General Workplace Safety

1. You are responsible for your own safety.
2. Safe procedures for most shop operations are described in the General Shop Safety and Policies Orientation but always ask for clarification if necessary.
3. All faculty, staff and students are to understand and exemplify the following rules and are responsible for doing so.
4. Follow all social distancing guidelines and signage. Try to maintain a distance of 6 feet between you and any other person in the facility.
5. No work may be performed in this facility by anyone under the influence of fatigue, drugs or alcohol.
6. Don't rush or take chances. Obey all safety rules.
7. Do not work in the shop if tired, or in a hurry.
8. Practice cleanliness and orderliness in the shop areas. Keep the floor around machines clean, dry, and free from trip hazards. Keep excess hose and cord length rolled. Remove scraps and debris as you work.
9. Think through the entire job before starting.
10. If you are unsure about the safe operation or process of use, request assistance from the Keeland staff.
11. Allocate enough space around your work area to safely operate any tools, while allowing space for other students to circulate and work.
12. Failure to abide by shop policies will result in a warning and/or temporary ban. Repeat offenders may receive a permanent ban if necessary.

Attire/Admittance

Required for entry: Minimum approved PPE (long pants, closed toe shoes, safety glasses, etc.), Cougar ID card, Face Mask

1. Observe all caution and danger signs. Remain alert and pay attention to alarms or verbal commands. To this end, listening to music or wearing ear-buds/headphones is prohibited.
2. Personal protective equipment (PPE) required in this facility must be worn as specified

3. PPE beyond what is listed is recommended but optional unless otherwise specified. Optional PPE includes respirators, dust masks, safety-toe boots, aprons, ear plugs, etc.
4. Gloves should not be worn when operating drills, lathes or other types of machinery that contain rotating spindles or cutting tools.
5. Wear clothes that are suitable for work. Long-sleeve shirts must be worn when burning, welding, grinding or performing other types of work where sparks or hot metal are present or where the work involves the use of acids, airborne irritants or other similar substances.
6. Gym attire including but not limited to leggings, joggers, and sweatpants are prohibited while using metal shop equipment.
7. Neckties, rings, watches and loose clothing create a hazard when operating equipment or machinery; be sure these items are removed.
8. Students with long hair must tie their hair back so it won't be caught in any rotating machinery or parts.
9. Work trousers should extend past the ankle to prevent debris from entering the shoe.
10. Approved safety glasses, cover goggles, or face shields must be worn at all times.
11. Wear shaded eyewear only when using equipment that produces UV light.
12. Shoes must be worn at all times. The minimum footwear must cover the entire foot, have a rubber sole, and be laced. Shoes with a high heel are prohibited.
13. Hand protection in the form of suitable gloves should be used for handling hot objects, glass, sharp-edged, caustic, and/or toxic materials and items.
14. Students must present Cougar ID at check-in to gain access to this facility.
15. Students and other authorized shop users may only enter via the front door.

Storage and Overhead Hazards

1. Never stack material or product so that it obstructs safety equipment, aisles, ladders, steps, electric boxes, etc. Always pile large or heavy material on the bottom and smaller material on top.
2. When storing material, stay clear of objects being moved or handled by any type of conveyance. Be sure to keep your hands and body clear of moving parts and machinery.
3. Unless prohibited by size, projects and materials may not be stored in this facility. Storing materials in this facility requires prior approval. Approved items must be labeled correctly and may only be stored for up to 48 hours.
4. When lifting an object, lift with your legs and not with your back. Keep your back straight.
5. If using a ladder, it must be erected safely and fully spread on a flat floor.

6. Allocate enough space below ladders or other projects if passing below the operation poses a potential hazard to anyone.

Combustion Hazards

1. Smoking is not allowed in this facility.
2. Never smoke near compressed oxygen and gas cylinders, paint operations, Flammable storage rooms near, gasoline or fuel stations, battery recharging stations, or at any locations that contain a combustible or explosive atmosphere or condition.
3. Flammable liquids such as gasoline, solvents, and thinners, must be stored in approved safety cans.
4. Compressed oxygen and gas cylinders must be properly secured at all times. Caps must be installed when not in use. Only lift cylinders in approved racks or cages. If a cylinder is empty, inform the Keeland Staff for replacement.
5. Never use equipment that produces excessive heat or sparks where compressed gas cylinders are present. Be mindful of the direction sparks are thrown.
6. Do not block or otherwise impede fire exits.
7. Be familiar with the locations and operation of fire extinguishers.
8. Always store oily rags in an approved metal container.

Tool Use

1. Horseplay is forbidden. Do not disturb or interfere with other students when they are using equipment or tools.
2. Be certain all safety guards are in place before operating any machine or equipment.
3. Guards must be replaced immediately before the machine is put into operation.
4. Never tie down, block out, or otherwise make inoperative any type of safety device, attachment, method or guard.
5. Never remove guards or attempt to adjust machinery while it is in motion. Do not climb on machinery. Repairs of machinery must only be made by authorized personnel.
6. Report any broken equipment to the Keeland staff immediately. Never attempt to operate any equipment that is labeled as out of order. Do not plug in stationary tools that have been unplugged.
7. When a machine is de-energized for the purpose of changing setup or making minor adjustments, the operator must be sure that the motor has come to a complete stop.
8. Always unplug hand tools prior to making adjustments or replacing consumables.
9. Clamp or secure equipment or material to prevent it from shifting or rotating when drilling, grinding, operating a lathe, etc.

10. Do not operate any item of equipment unless you are familiar with its operation. If you have any questions regarding the use of equipment, ask the Keeland Staff.
11. Keep fingers clear of the point of operation of machines by using special tools or devices, such as, push sticks, hooks, pliers, etc. Never use a rag near moving machinery.
12. Machines must be shared; measure and plan before operating equipment.
13. Hand tools and portable equipment may be check-out at the front desk upon request. Return tools to "Drop Off" Bin after use and do not share tools with fellow classmates.
14. Tools may not be checked-out for use outside of this facility.
15. Do not use electrical equipment while standing on damp or wet surfaces or when your hands are wet.
16. Do not use electric cable, weld leads, extension cords, etc., unless they are properly grounded and insulated.
17. Check the power cords and plugs on portable tools for damage or fray before using them.
18. Never remove a tag labeled "caution," "danger," etc., without authorization.

Consumable Tools

1. Users are afforded use of all tools and equipment based on availability.
2. Students must provide their own materials.
3. The Keeland Center distinguishes between consumables purchased by the facility for student use and consumables that students are expected to provide. Ask a staff member for a list of common consumables. *

*Report machine failure to the Keeland Staff. The Keeland Center is responsible for replacing consumable items on standing machines. Only authorized personnel are permitted to perform repairs and consumable part replacement on machines. Students found to be at fault for consumable part loss resulting from negligent or misuse of the equipment will be held responsible for the cost to replace the consumable item. Payments are made via Cougar Card.

Cleaning/Organization

1. Keep your work area clean and orderly; knoll and neatly arrange equipment and material. Do not allow parts, metal, wires, scrap, chips or other material to accumulate on the shop floors or in work areas.
2. Projects must be kept within the confines of a singular work table unless more space is required and approved by Keeland staff.
3. Never use an air hose for cleaning or dusting yourself off. Never point an air hose at anyone.

4. When cleaning with compressed air, pressure must not exceed 30 pounds per square inch (psi).
5. Never use an air hose for dusting off areas where metal filings are present.
6. Any equipment moved for operation must be replaced in its original position after use.
7. Avoid excessive use of compressed air to blow dirt or chips from machinery to avoid scattering chips.
8. Machines must be shut off and work must cease by 8:30 for cleaning.
9. A brush, hook, or other tool is preferred for removal of metal chips, shavings, etc. from the work area.
10. Students must clean work area before leaving the facility.
11. Before starting a machine, always check it for correct setup and always check to see if machine is clear. It is your responsibility to remove debris from the machinery after use. Be sure to hold everyone to the same standard.
12. If oil, grease, paint, or any other slippery substance is spilled on the floor, wipe it up immediately to prevent a fall. If any spilled substance presents significant danger, alert the Keeland Staff immediately

Material Hazards

1. If you have not worked with a particular material before, check the hazardous material safety data sheets (MSDS) book for any specific precautions to be taken while working with the material.
2. The Keeland Center encourages material exploration. However, it is recommended that you understand the possible dangers of your material prior to use. Otherwise benign materials may become a breathing hazard or skin and eye irritant in the form of dust or gas when heated or sanded.
3. The Keeland Center strongly discourages the use of exotic woods from endangered timber species. If you are unsure if your lumber purchase falls within this category, refer to the Convention on International Trade in Endangered Species (CITES) list of endangered timber.
4. Toxic materials and paints must be used within the paint booth
5. Follow all appropriate precautions when working with solvents, paints, adhesives, or other chemicals. These materials must be logged by the Keeland staff, keep them apprised to what you use in the paint booth.
6. Follow EPA guidelines for disposal/recycling of used oil, antifreeze, refrigerants and wastes.
7. No food or drink other than water is allowed in this facility, all containers must have tightened lids.
8. Report any unsafe conditions to the Keeland staff immediately.

Negligent Tool Use

1. Students are held responsible for their own safety. The Keeland Management maintains a no-tolerance policy for negligent or misuse of this facility and/or abuse of the Keeland Staff.
2. Use of this facility is a privilege not a right; The Keeland Management reserves the right to ban users who repeatedly neglect or refuse to abide the Keeland Policy, Guidelines, or Staff instruction.
3. Only those (CoA&D) students who have completed the General Shop Safety and Procedures Orientation are afforded use of this facility. Safe procedures for most shop operations are described in the General Shop Safety and Policies Orientation as well as in these postings. The information detailed therein is for user reference. Claiming ignorance to these policies is not an acceptable defense for any offense.
4. Use of this facility is an agreement to acknowledge and abide the policies and guidelines detailed here.

Digital Fabrication Tool Policy

The following machines require prior payment (via Cougar Card) and scheduling. Digital fabrication machines are operated by Keeland Lab staff and are reserved as remote fabrication requests. Requests for digitally fabricated models must include a properly formatted file. File formatting, pricing, and equipment availability is subject to change. Refer to the Keeland Lab Microsoft Teams Channel for updates and information.

1. Small and Large Format Laser Cutters can be scheduled through the online system at uh.mywconline.net.
2. 3D printers can be scheduled through the online system at uh.mywconline.net.

Students are responsible for estimating the total run-time for their fabrication request by reserving a sufficient amount of time for their job to be completed. Students do not need to be present for the completion of a remote fabrication request.

If a fabrication request is rejected, the appointment will be canceled on the schedule. Keeland Lab Staff may reject remote fabrication requests for the following reasons including but not limited to:

- Files not correctly formatted.
- Fabrication appointment duration insufficiently short.

These policies and guidelines are subject to change at the sole discretion of the Keeland Center Management. Rev. 08/01/2020