

Safety Policy for the Interactive Learning Laboratories

Purpose: The G.W. Woodruff School of Mechanical Engineering (GWW School), including the Interactive Learning Committee (ILC), is committed to protecting the health and safety of its community. To that end, the ILC Safety Subcommittee (the Subcommittee) of the ILC, with members representing the school of ME, has been established to identify needs, develop procedures, and maintain a policy of safety that is designed to ensure that safety and health-related issues within the GWW School are identified and addressed in a timely manner while assisting in the implementation of the Institute's environmental health and safety protocols and programs. This document serves as the Woodruff School's safety policy for the purpose of:

- Safeguarding the health, safety and welfare of the school's students, staff, faculty, and visitors.
- Providing adequate conditions and support to ensure that for any work that is undertaken the school produces no unnecessary risk to health or safety.
- Encouraging the identification and reporting to the ME administration of any hazards that exist within the school or of any conditions that appear dangerous or unsatisfactory.
- Encouraging the safe use, handling, storage and transport of equipment, materials, and chemicals.
- Providing sufficient information, instruction, training and supervision to all stakeholders of the school so as to enable them to contribute to their own safety and health.

This policy complies with safety recommendations¹ offered by the Georgia Tech Office of Environmental Health & Safety (EH&S), while considering the curriculum requirements and the needs of students and faculty instructors for efficient and effective operations within the School's facilities. It can be altered at any time by the ILC Safety Subcommittee with approval from the ILC. It shall be reviewed annually by the Subcommittee or by others appointed by the ILC or the school administration. A report on this review is to be made at the following ordinary meeting of the ILC.

Scope: The scope of this policy is applicable to all GWW School Faculty, Staff, Teaching Assistants (TAs), students, and designated Prototyping Instructors (PIs), and encompasses the School's interactive learning laboratories and the fabrication spaces detailed in **Appendix A**.

Safety Policy-elements:

1. *Users will read, acknowledge, and accept the **User's Agreement**, prior to using any equipment for performing tasks within the GWW interactive learning labs and fabrication spaces.
Reference: **Appendix B**.*
2. *A unified training curriculum will be maintained for all tools/machines (listed under Category 2, 3 & 4) within the GWW interactive learning labs and fabrication spaces. Reference: **Appendix C**.*
3. *The Safety Subcommittee of the GWW Interactive Learning Committee (ILC) will investigate all serious accidents, and all other safety incidents when requested by the ILC or ME administration. It shall initiate proper follow-up measures and ensure that corrective actions are implemented when unsafe conditions, practices or equipment are reported or observed. Matters related to a breach in security or inappropriate behavior shall be addressed by the Subcommittee according to Georgia Tech's Code of Conduct policy² with potential notification to the Georgia Tech Police Department (GTPD). Serious safety violations may be handled at the discretion of the School Chair.*
4. *Authorized Personnel and GWW Staff have safety-related duties and responsibilities.
Reference: **Appendix D**.*

¹ cf. *Maker Space and Machine Shop Safety Program 2021*, General Safety Guideline-Proposed, Georgia Tech EH&S.

² <http://policies.gatech.edu/student-life/student-code-conduct>

Appendix A – Table listing the interactive learning laboratories with corresponding GWW staff facility coordinators

Area	Location	Use	GWW Staff Facility Coordinators
MRDC Common Areas	2nd and 3rd Floor Lobby	General assembly	Jacob Blevins, Cary Ogltree, Clint Rinehart, Scott Elliot Sterling Skinner
IDEA Laboratory	MRDC 2101	Machine tools; 3D printing Computers and presentations	Jacob Blevins, Clint Rinehart
Montgomery Machining Mall	MRDC 2323	Machine tools CNC lathe; CNC mill	Scott Elliot
Instructional	MRDC 3317	ME 3057	Sterling Skinner
	MRDC 3330	ME 4056	
	MRDC 3334	ME 4053	
	MRDC 3329 College of Computing - Basement	Lab Development Mechatronics	
	MRDC 1205	Internal Combustion Engines Lab	Jake Tompkins
Flowers Invention Studio	MRDC 2201/MRDC 2202	Water Jet/Laser cutting Electronic Assembly 3D Design Computers/ Assembly Machine Tools; CNC	Jacob Blevins, Clint Rinehart
	MRDC 2317	Wood working	
	MRDC Loading Dock	Paint Booth	
Student Competition Center	14th Street	Machine Tools General assembly; Paint	Jake Tompkins

Appendix B – GWW Interactive Learning Laboratory Space User's Agreement

Professional Conduct is required

- Training is required to use any piece of equipment in the fabrication lab space.
- Horseplay is never appropriate in any of the lab spaces.
- Be aware of others around your work, and the work being performed around you, at all times.
- Use the correct tool for the job and never abuse the tool. Use the training you have received.
- Do not hold your work pieces with your hands when using cutting tools. Clamp your work piece in a vice and use two hands to hold the tool whenever possible.
- Know your physical limits. Do not operate power tools when you are too tired to be alert.
- Always report any injury via the email address safety@me.gatech.edu.
- The reporting of a broken tool, housekeeping issue, or potential hazard should be reported to the Facility Coordinators (**Appendix A**).

Dress for the work being performed

- Personal protection equipment (safety glasses, ear plugs, breathing masks, etc.) are to be worn anywhere signs are posted in the workspace, or whenever appropriate based on training for that tool. For example, safety glasses are to be worn anytime powered, sharp, or impact tools are being used in your vicinity.
- Never approach rotating or any large power tools with loose clothing, long untied hair, lanyards, headphone cords around your neck, or large jewelry that could pull you toward the machine.
- Shoes worn in the fabrication spaces must cover the tops of your feet.

Never Work Alone with Tools in Category 3 or 4 (**Appendix C**)

- Work with at least a minimum of one person within at least voice distance of you when Category 3 tools are in operation. Category 4 tools require vocal and line of sight contact with your work partner.
- You must not be separated by a closed door from this partner. If due to the space a closed door is unavoidable then the door must not be locked.
- Your work partner must be trained (and able) to turn off the tool in the event of an emergency.
- Partner must be able to call the campus police (404) 894-2500 in any emergency.
- It is the user's responsibility to confirm the above four steps any time powered tools are in operation.

Help Keep the Fabrication Labs Safe as You Use Them

- Clean your work area of any debris that you have created or others have created before you. The next person using the space must find it to be clean, organized, and safe.
- Help keep the floor space in the fabrication labs dry and free of tripping or slipping hazards such as saw dust, oil, electrical cords, or raw materials.
- Whenever you use a tool, you are responsible for returning it to its proper storage location, regardless of where you found it. If you are unsure, please ask the lab personnel.
- Do not prop doors open for any reason. Exits, corridors, and passageways must be kept clear for safe passage during an emergency.
- Never modify any tool, and especially, never remove safety devices from tools.
- If you see someone working in an unsafe manner, you must gently correct them as a colleague.

I accept the user's agreement and also understand that I am authorized to use only the equipment in which I have received training throughout my enrollment or association with Georgia Tech. Violation of the above user agreement may lead to loss of access.

Approved 12-01-2023

Name, GT ID/User Name, Sign and date:

Appendix C – Categories of tools/machines with required user training and trainer qualification

	Category 1	Category 2	Category 3	Category 4
Power	Low power hand tools Small benchtop tools < 10 amp @120 VAC < 18V cordless	Powerful protable tools Small benchtop tools 10-15 amps @ 120 VAC	Light to medium industrial tools	Large industrial tools (Manual and NC-contolled)
Examples	<ul style="list-style-type: none"> ♦ Cordless drill ♦ Soldering iron/guin ♦ 3D printers ♦ Vinyl cutter ♦ Hack saw ♦ Claw/Ball peen ♦ Hammer ♦ Chisel ♦ Screw driver; Pliers; Sockets ♦ Socket set; Wrenches ♦ Tap and Die Set 	<ul style="list-style-type: none"> ♦ Injection molding machine ♦ Vacuum former ♦ Laser cutter ♦ Water jet 	<ul style="list-style-type: none"> ♦ Bandsaw ♦ Drill press ♦ Circular saw ♦ Chop/Miter saws ♦ Belt/Disc sander ♦ Bench grinder 	<ul style="list-style-type: none"> ♦ Manual milling machine ♦ Manual metal lathe ♦ CNC Lathe ♦ CNC Mill ♦ CNC Router ♦ Wood working lathe
Usage during regular working hours	N/A	Supervised by authorized personnel	Supervised by authorized personnel	Supervised by authorized personnel
Usage during off working hours	Authorized personnel	Authorized personnel	Authorized personnel with another person within hearing range.	Authorized personnel with another person physically present in same room.
User training	Introduction to Safety Policy and Procedures			
	Tool training by authorized trainers			Professional trained only. Demonstrated proficiency of training curriculum.
Trainer Qualification	Tool Experience			Professional-level tool experience.
	Knowledge of approved training curriculum		Demonstrated proficiency of training curriculum.	

Appendix D – Definitions and duties for Authorized Personnel & Staff

1. “Authorized Personnel” are those users of the GWW instructional and fabrication spaces who have 24/7 access (either through a key or via Buzz card) to any of the areas and are responsible to:
 - a. Provide safety oversight in their respective control areas and enforce the user safety agreement.
 - b. Develop and maintain up-to-date training curriculum for new equipment/machine added in their specific areas/zones. Submit any new or revised curriculum to the corresponding GWW staff.
 - c. Assist the corresponding GWW staff facility coordinators in posting safety signage as recommended by the Safety Subcommittee of the Interactive Learning Committee (ILC).
2. Faculty, Staff, Teaching Assistants, volunteer students, and PIs (Prototyping Instructors from the Invention Studio) can be considered as “authorized personnel” as long as they receive authorization from a superior level staff and/or EH&S, as qualified and or required. They may need to be trained on being able to address safety hazards.
3. In addition to the responsibilities listed for Authorized Personnel, the corresponding GWW staff Facility Coordinators are expected to:
 - a. Maintain an updated record of all Authorized Personnel with their respective control areas and revise it at the beginning and end of the semester.
 - b. Conduct periodic tool inspections in compliance with EH&S guidelines.
4. Faculty can exercise authority to revoke access to individuals who violate this safety policy. Given the GWW Interactive Learning Committee (ILC) has oversight of the safety policy, an appeal to the ILC can be made if conflicts arise.
5. The GWW Staff Facility Coordinators may be required to report to the ILC on a periodic basis.