NOTE: Persons violating safety rules or operational policies are subject to appropriate disciplinary action and/or immediate dismissal from the area by laboratory monitors, faculty, and staff.

Emergencies

1. Report all emergencies to your laboratory monitor or RPI staff member. If an injury needs prompt medical attention, call Public Safety at campus phone extension 6611 or by cell phone at 518-276-6611. For non-emergencies dial 518-276-6656.
2. Do not attempt to move an injured person unless there is an imminent danger to life.
3. First-aid kits are available in the laboratory for minor injuries.
4. Do not attempt to clean up any bodily fluids under any circumstances. Report it to your lab. monitor, staff member, or faculty immediately.
5. In case of fire or hazardous chemical spill evacuate the premises immediately.

General Operational Policies

1. Faculty, staff, and laboratory monitors are responsible for interpreting and administering safety rules and operational policies.
2. Faculty, staff, and laboratory monitors have the right to dismiss a student from a laboratory area if safety rules are violated.
3. Only current RPI faculty, staff, and students who have been properly trained and authorized are allowed to directly operate the Reflow Oven, Environmental chamber, Signal Analyzer and Pick and Place machine.
4. Use the buddy system and watch out for other people. If you are aware of an unsafe situation, report it to your laboratory monitor or staff member immediately.
5. Do not tamper with projects, experiments, machine set-ups, or prototypes that are not under your jurisdiction.
6. Use of tobacco products, alcohol, and illegal substances is prohibited in the laboratory.
7. Everyone is responsible for housekeeping and cleaning up after themselves. Project work is to be done in the designated workbench areas only and properly stored for safe keeping after use. Doorways are to be kept clear for purposes of safe passage.
8. Loud music, yelling, running or other disruptive behavior is not allowed.
9. Report any cases of vandalism or theft to a faculty, staff member or laboratory monitor immediately.
10. Students should not perform any type of maintenance on equipment in the laboratory areas.
11. Food and drinks are not allowed in the laboratory.
12. Rensselaer is not responsible for personal property (e.g. computers, multi-media devices, tools) in the laboratory.
13. This is a lead free environment. Do not bring into the laboratory any lead-based soldering materials.
14. Wash your hands after handling the flux and cleaners on the circuit boards.

General Safety

1. Safety glasses with side shields are mandatory when using the reflow oven, soldering, and the environmental chamber. Persons not wearing safety glasses will be asked to leave.
2. Students should purchase their own safety glasses with side shields. You can purchase glasses at the campus bookstore, Pfeils Hardware (63 3rd St. in downtown Troy), or Home Depot.
3. Wear appropriate clothing for the task you are working on (example: long pants or proper personal protective gear, such as gloves, etc. No open toe shoes). Ask the lab. monitor, or staff member if you are not sure if you are dressed correctly for the task at hand. Chassis fabrications should ONLY be done in the student machine laboratory. It is not permitted in the Mercer Lab.
4. Report all spilled fluids immediately (since they are an extreme slip hazard).
5. Powered/operating projects may not be left unattended. Should long-term testing be required, it must be arranged on a case-by-case basis with permission of the lab. monitor and the Mercer lab. committee (email Prof. Mona Hella).
Electrical

1. Working with line voltage or voltages greater than 24V must be done under the direct supervision of the lab. monitor or staff member.
2. Do not work on electronic circuits when the power is on, unless it is absolutely necessary and under the supervision of the lab. monitor or supervisor. Low power analog and digital circuitry (e.g. \( \leq 12V \)) are the ONLY exceptions to this rule, provided the power supply or battery is fused at 1 amp or less.
3. Use the one handed rule (only one hand touching circuit at any given time) when working on active circuits with voltages greater than 5V. Electric currents of less than 100 milliamps can cause death.
4. Electrolytic caps and other large capacitors can hold voltages for several hours. Be sure they are discharged, by a lab. monitor or staff member, with an insulated clip lead before working on the circuit.
5. Certain components such as power resistors and semi-conductors get very hot. Give them a chance to cool before touching them.
6. When soldering, wear safety glasses and DO NOT flick the soldering iron to remove excess solder. You may burn your colleague.
7. Any batteries not of the standard consumer type (e.g. AA, AAA, C, D, 9v, 6v lantern battery, etc.) must be approved by a staff member or lab. monitor.
8. Lithium-based batteries (labeled “Lithium,” “Li-po,” “Li-Ion,” “Lithium-Polymer,” “MnO2-Li,” etc.) may not be used without approval of the laboratory supervisor. Button cell, such as watch batteries are allowed.
9. Batteries and power supplies must be fused appropriately
10. Batteries must not be left unattended while charging. DO NOT ATTEMPT TO CHARGE NON-RECHARGEABLE BATTERIES!
11. All extension cords should be visually inspected for damages prior to use. Any cords suspected of having a defect should be turned in to a faculty or staff member. Unplug all extension cords after use.
12. Do not plug a 3 prong electrical cord into a two prong extension cord.
13. Do not block electrical panels. All panels must have a clearance of 36” around them.

Chemical

1. All projects with a chemical component need preliminary approval from faculty and or laboratory staff prior to acquiring chemicals for a project.
2. Do not drain or dispose any chemical without first consulting the lab. monitor or staff person.
3. All chemical containers must be labeled as to their contents. Do not use abbreviations or formulas as labels. Chemical contents must be spelled out legibly in English.
4. Chemical rags or rags with any type of solvent are to be disposed of in proper containers. Do not dispose of these items in regular trash containers.
5. Hazardous or regulated materials such as batteries, computer components, and chemical reagents must be disposed of in accordance with Rensselaer’s Hazardous Materials Disposal Program. An online version of the Hazardous Materials Disposal Program is located at [http://hr.rpi.edu/update.do?artcenterkey=383](http://hr.rpi.edu/update.do?artcenterkey=383)
6. Bio-reactors, live cultures, decomposing organics, or other potential gas sources must be properly vented or stored temporarily in a fume hood. Gas exposure, pressure buildup, flammability, and explosion risk must always be carefully considered and addressed with such projects.

In reviewing this sheet and signing the laboratory safety sheet list, I acknowledge that I have carefully read and fully understand the general safety rules and operational policies of the Mercer Laboratory for Exploration and Innovation, and I will comply with them.

Signature          _____________________________________________
Print Name        ______________________________________________
Date                   ______________________________________________

Please contact Prof. Mona Hella (hellam@ecse.rpi.edu), or Mr. Jerry Dziuba (Dziuba@ece.pi.edu), if you have questions relative to the policies, testing process, or projects outside of the scope of these policies.