Department of Mechanical and Mechatronic Engineering and Advanced Manufacturing

# General Lab Safety Policies and Procedures for All MMEM Laboratories

#### IN CASE OF INJURY OR ILLNESS

- If the injury or illness is life threatening or requires immediate medical attention, call 911.
- If there is any question as to the severity of the injury or illness, call the University Police Department immediately at ext 5555 or dial 911. Examples of injuries or illnesses that might require immediate medical attention include, but are not limited to, back or neck injury, unconsciousness, seizures.
- For injury or illness that requires medical treatment off-campus, the student's own medical insurance is primary and should be used to secure medical care.
- If the injury or illness is minor in nature and only requires first aid treatment (minor cuts, abrasions, splinters), the student should be referred to the Student Health Center.
- The University Police Department and Risk Management should be contacted and a completed <u>DGS Form</u> <u>268 (PDF)</u> should be forwarded to Risk Management as soon as possible.
- For injuries or illnesses that occur on campus, employees should NOT transport students to Enloe or other medical facilities.

### The following maintenance and safety items must be followed when working in all MMEM laboratories.

- Hazards exist in every laboratory including but not limited to foreign objects in eyes, cuts, burns, and other injuries, damage to hearing, trip and fall hazards from potentially slippery surfaces, overhead hazards i.e. falling objects from shelving, injuries (cuts, crushing, breaks) from pinch points on clamps, vises, shears, and hand tools, musculoskeletal strain or injuries from improper lifting techniques.
- 2. Walkways: All walkways will be clear of foreign or waste objects and have at least 32" of clearance.
- 3. Cleanliness of lab space: All lab floors must be free of debris. Floors must be swept after each use and at the end of each lab period.
- 4. Wet/slippery surfaces: All wet floors will be cleaned and dried immediately with absorbent cloths and wet floor signs must be posted.
- 5. Use of safety glasses is required in all labs when using power tools and equipment designated as eye safety hazard.
- 6. No food or drink (eating or drinking) allowed in the labs at any time.
- 7. No bicycles, scooters, or skateboards allowed in the labs at any time.
- 8. Follow the Buddy System: Do not work alone. Another person must be working in the same room and aware of working status.
- 9. Emergency plan: You must familiarize yourself with the emergency plan for the laboratory including:
  - a. Location of the emergency information board in the laboratory.
  - b. Location of the fire extinguisher, eye wash and shower.
  - c. Location of the first aid kits.
  - d. Location of phone numbers for emergency personnel.
  - e. Location of chemical spill absorbent kit and spill clean-up procedure sheet.
  - f. Location of exit doors and location of fire alarm activation device (pull station).
- 10. Personal Protective Equipment (PPE): When PPE is required, it is available from instructor or lab overseer and includes: safety glasses, face shields, hearing/ear plugs, Tyvek suits, N95 respirators, and gloves.
- 11. Safety Data Sheets (SDS): Know the location of the Safety Data Sheets in the lab. Review Handling and Storage, First Aid, and PPE sections for any chemicals being used in lab prior to using them.
- 12. Hazardous Waste disposal. All hazardous solid and liquid waste must be disposed of in properly labeled containers.
  - a. Anyone disposing of hazardous waste must complete EHS Hazardous Waste Generator training.
  - b. Liquid waste (other than clean water) must be put in a sealed container with the proper label identifying the liquid waste. Labels are available from the lab monitor and/or overseer.
  - c. Solid waste and oily rags must be placed in appropriate recycling or waste bins or oily rag containers.
  - d. Low Hazard spills can be cleaned up with dry absorbent cloth. Contact EHS at x5126 to dispose of cloth as hazardous waste.

### Additional Safety and Maintenance Items for HIGH RISK Metals Laboratories (PLMS 114, PLMS 116, PLMS 121, LANG 118)

- Instructor or lab monitor will check all student work areas before dismissal. Fifteen minutes before the end of lab or closing, all students will clean up their work area and the lab before leaving.
- 2. Students are allowed to work only on equipment for which they have been properly trained. Instructors maintain a list of students and the equipment that they have been properly trained to operate.
- 3. Students who violate policies and procedures will be removed from the lab and have their lab access revoked.
- 4. Labs have hours of operation during which a Lab Monitor will oversee all lab activities. These hours will include some weekend hours. Lab Monitors will be responsible for collecting student IDs from all students entering the labs at non-class times. Students will get their ID back only when they clean up their work area and replace all tools. The Lab Monitor will verify cleanup before returning a student's ID.
- 5. Some student officers in the car clubs will be given lab keys for after hours to be non-paid lab monitors. These keys will be a privilege that require responsibility on the part of the officer. They will be held responsible for supervising and ensuring that all work areas are cleaned up and organized before leaving the lab. They will be present in the lab whenever other students are present and will lock the



## Department of Mechanical and Mechatronic Engineering and Advanced Manufacturing

door when they leave.

- 6. The lab log must be filled out by any student doing work in any lab during non-class times. The log will show their name, arrival time, what they will be working on, and their departure time.
- 7. All College of ECC employees, including faculty using the ECC labs, must successfully complete all trainings required by EHS. All lab monitors, paid or not paid must have required safety training.
- 8. All students using the lab are responsible for cleaning each machine used, sweeping up waste and disposing in appropriate containers, vacuuming, if necessary, returning inventory to inventory supply area, returning tools to appropriate toolbox, etc.
- 9. For safety reasons, no cell phones will be allowed in the labs. Cell phones will be left in the briefing room (116A). If a student needs to access his/her cell phone, that will occur in the briefing room only. If course materials need to be accessed on a cell phone, that should occur before class or in the briefing room only. This is to insure a distraction-free, safe working environment for all.
- 10. Food and drinks are not allowed in the labs. Food and drink will only be allowed in the briefing room, Plumas 116A.
- 11. Eye protection must be worn at all times by anyone in all locations of the labs. Goggles are required for chemicals with splash potential.
- 12. Closed-toed shoes must be worn at all times by students, faculty, and staff in all locations of the labs.
- 13. Hair longer than collar-length must be secured up and out of the way. Loose clothing or jewelry which may become entangled may not be worn when using power tools with rotating or reciprocating parts.
- 14. Vinyl gloves must be worn when working with glass-filled plastics or glass and carbon polymer composites. Neoprene rubber gloves must be worn when mixing urethanes or polyester resins for polymer composites. Glove types are specified in the SDS for the chemical in use.
- 15. Chemical spill clean-up. Please follow the EHS guidelines as shown on the yellow Hazardous materials Emergency Information Sheet posted on the Emergency Information Board.
- 16. If a spill presents significant danger or hazard, consider it an emergency, call 911, evacuate the room or building as needed by pulling the fire alarm, close the door on your way out.
- 17. If a chemical, including oil, resin, or hydraulic fluid is spilled in small quantity on the floor do the following:
  - a. Wear appropriate gloves for product, place an absorbent cloth on the spill, place a wet floor sign in the area.
  - b. Notify the lab monitor of the spill and actions taken.
  - c. Package and label cleaned up material as hazardous waste. Contact EHS at x5126 to dispose.
- 18. Do not remove or tamper the machine guarding on any equipment or tool.
- 19. Follow lock-out tag-out (LOTO) procedures for all equipment and machinery that is breaks and/or is being repaired:
  - a. Notify Lab Monitor whenever equipment stops working properly and/or needs repair.

By signing this form, I agree to comply with all MMEM general laboratory safety policies and procedures.

- b. Lab monitor shuts down equipment, notifies students and other faculty that the machine is broken, and requests LOTO.
- c. Instructor will lock out equipment with their designated lock and notify Tech Shop of needed repair.
- d. Tech Shop will add their lock enabling the instructor's lock to be removed. Tech Shop will make repairs and when appropriate will remove LOTO when the equipment is ready to be put back into service.
- 20. Spills of wood products and plastic pellets will be cleaned up with a HEPA vacuum or broom and disposed of in appropriate containers.
- 21. When gas welding, #4 or darker goggles must be worn.
- 22. When arc, TIG, or MIG welding, #9 or darker shielded lenses must be worn.
- 23. When arc welding, eye protection and gloves must be worn. All skin must be fully covered to prevent skin burns from ultraviolet light.
- 24. When metal casting, a full face shield, a long sleeve shirt (made of cotton, Nomex, or leather), long pants (made of cotton, Nomex, or leather), insulated gloves, and leather shoes are required.

Student Name (Printed)

ID Number

Major

Student Signature

The above named person has received safety training from me for the laboratories listed above.

Trainer's Name/Signature

Date