Department of Aerospace Engineering

General Safety Rules and Regulations for Laboratories and Research Areas

The following safety rules and regulations are to be followed in all Aerospace Engineering laboratories and research facilities. These rules and regulations are to insure that all personnel working in these laboratories and research areas are protected, and that a safe working environment is maintained.

1. "Horseplay” is hazardous and will not be tolerated.

2. No student may work alone in the laboratory at any time, except to prepare operating procedures for equipment or data write-up/reduction/simulations.

3. Required personal protective equipment (PPE) will be provided by the Department for use whenever specified by the Faculty, Engineering Support or Teaching Assistant, i.e., hearing protection, face shields, dust masks, gloves, etc.

4. Contact lenses will not be worn in the laboratory when vapours or fumes are present.

5. Safety glasses with side shields and plastic lenses will be required when operating targeted class experiments as outlined in the experimental procedures. Splash goggles or face shields will also be provided and worn, for those experiments which have been identified as a requirement.

6. Each student must know the location of the First Aid box, emergency equipment, and eye wash station, if required in the laboratories, shops, and storage areas.

7. All Faculty, Engineering Support and Teaching Assistants must know how to use the emergency equipment and have the knowledge to take action when an accident has occurred, i.e., emergency telephone number, location, emergency response services.

8. All Faculty, Engineering Support and Teaching Assistants, and Research Assistants, must be familiar with all elements of fire safety: alarm, evacuation and assembly, fire containment and suppression, rescue.
9. Ungrounded wiring and two-wire extension cords are prohibited. Worn or frayed extension cords or those with broken connections or exposed wiring must not be used. All electrical devices must be grounded before they are turned on.

10. All Faculty, Engineering Support and Teaching Assistants, and Research Assistants, must be familiar with an approved emergency shutdown procedure before initiating any experiment.

11. There will be NO deviation from approved equipment operating procedures.

12. All laboratory aisles and exits must remain clear and unblocked.

13. No student may sniff, breathe, or inhale any gas or vapour used or produced in any experiment.

14. All containers must be labeled as to the content, composition, and appropriate hazard warning: flammable, explosive, toxic, etc.

15. The instructions on all warning signs must be read and obeyed in all laboratories and research facilities.

16. All liquid and solid waste must be segregated for disposal according to Faculty, Engineering Support or Teaching Assistant instructions. All acidic and alkaline waste should be neutralized prior to disposal. NOTE: NO organic waste material is to be poured down the sink or floor drains. These wastes should be properly placed in designed waste disposal containers, labeled and stored in the department’s flammable storage cabinet which is ventilated and secured.

17. Good housekeeping must be practiced in all teaching and research laboratories, shops, and storage areas.

18. Eating, drinking, use of any tobacco products, gum chewing or application of makeup are strictly prohibited in the laboratories, shops, and storage areas.

19. Only chemicals may be placed in the “Chemicals Only” refrigerator. Only food items may be placed in the Food Only refrigerator. Ice from any refrigerator is not be used for human consumption or to cool any food or drink.

20. Glassware breakage must be disposed in the cardboard boxes marked “Glass Disposal”. Any glassware breakage and malfunctioning instruments or equipment must be reported to the Faculty, Engineering Support or Teaching Assistant present.
21. All injuries, accidents, and “near misses” must be reported to the Faculty, Engineering Support or Teaching Assistant. The Accident Report must be completed as soon as possible after the event by the Faculty, Engineering Support or Teaching Assistant and reported to the Departmental Safety Officer immediately. Any person involved in an accident must be sent or escorted to the University Health Centre. All accidents are to be REPORTED.

22. All chemical spills are to be reported to the Faculty, Engineering Support or Teaching Assistant, whose direction must be followed for containment and cleanup. Faculty, Engineering Support or Teaching Assistant will follow the prescribed instructions for cleanup and decontamination of the spill area. The Departmental Safety Officer must be notified when a major spill has been reported.

23. All students and Faculty, Engineering Support or Teaching Assistant must wash their hands before leaving targeted laboratories, research facilities or shops.

24. No tools, supplies, or any other items may be tossed from one person to another.

25. Compressed gas cylinders must be secured at all times. Proper safety procedures must be followed when moving compressed gas cylinders. Cylinders not in use must be capped.

26. Only gauges that are marked “Use no oil” are for Oxygen cylinders. Do not use an oiled gauge for any oxidizing or reactive gas.

27. Students are never to play with compressed gas hoses or lines or point their discharges at any person.

28. Do not use adapters or try to modify any gas regulator or connection.

29. There will be no open flames or heating elements used when volatile chemicals are exposed to the air.

30. Any toxic chemicals will be exposed to the air only in a properly ventilated Fume Hood. Flammable chemicals will be exposed to the air only under a properly ventilated hood or in an area which is adequately ventilated.

31. Personal items brought into the laboratory or research facility must be limited to those things necessary for the experiment and safe operation of the equipment in the laboratories and research facilities.
32. General laboratory coats, safety footwear are not provided by the Department of Aerospace Engineering, although some targeted laboratories and research areas will be supported by a reasonable stock of protective clothing and accessories, i.e., gloves, welding aprons, dust masks, face shields, safety glasses, etc.

33. Equipment that has been deemed unsafe must be tagged and locked out of service by the Technical Officer in charge of the laboratory or research facility. The Departmental Safety Officer must be notified of the equipment lockout IMMEDIATELY!

34. In June 1987 both the Federal & Ontario Governments passed legislation to implement the workplace hazardous material information system or WHMIS across Canada. WHMIS was designed to give workers the right-to-know about hazardous material to which they are exposed to on the job. Any person who is required to handle any hazardous material covered by this act should first read the label and the product’s material safety data sheet (MSDS). No student is to handle any hazardous materials unless supervised by a Faculty, Engineering Support or Teaching Assistant. The laboratory Technical Officer, Faculty, Engineering Support or Teaching Assistant is responsible for ensuring that any hazardous materials are stored safely using WHMIS recommended methods and storage procedures. All MSDS must be displayed and stored in a readily accessible place known to all users in the workplace and laboratory.

35. All the foregoing rules and regulations are in addition to the Occupational Health and Safety Act, 1987.

36. Casual visitors to the laboratory and research areas are to be discouraged and must have permission from the Faculty, Engineering Support or Teaching Assistant to enter. All visitors must adhere to the safety guidelines.

37. Only the Safety Officer may make changes to these policies upon confirmation of the Safety Committee and approval of the Department Chair.