All laboratories in the Department of Mechanical Engineering need the following basic safety elements in their laboratories:

1. Chemical Inventory
   a. This is a list of all the controlled substances (as defined by WHMIS) under the stewardship of the professor concerned.
   b. If you do not have any controlled substances in your laboratories, please state this on your chemical inventory and post this in the sleeve provided.
   c. Signed and dated by the principle investigator.
   d. A template for this inventory can be found on the MEC E safety website.

2. Material Safety Data Sheets (MSDS)
   a. A binder available containing an MSDS for each controlled substance in the laboratory (printed MSDSs must be updated every three years)
   OR
   b. A computer with a printer available in the laboratory enabling researchers to print off the MSDSs as needed.

3. Hazard Assessment
   a. The Alberta OHS Act, Regulations, and Code require that researchers complete a hazard assessment for their workplace, i.e., ALL laboratories. Once the hazards have been identified, the proper precautions must be documented in order to eliminate or mitigate these risks.
   b. Performed on a regular basis for the laboratory space. This is especially important when new people or equipment arrive in the laboratory.
   c. Examples of hazards (NOT complete):
      i. Computer Laboratory
         1. Ergonomics (solution: proper workstations to reduce strain)
      ii. Chemical Laboratory
         1. Toxic vapours (solution: lab users are trained to use best practices in chemical handling procedures that include using the fumehood available in the laboratory)
      iii. Combustion Laboratory
         1. Burn injuries (solution: lab users are trained to use fire protective clothing such as gloves and coveralls)
      iv. Wind Tunnel Laboratory
         1. Noise (solution: the proper hearing protection equipment is available - and new users have been made aware of this)
      v. Optics Laboratory
1. Lasers (solution: the proper laser safety eyewear is available and users have been made aware how to use this safety equipment)
   d. Both the hazard assessment template and instructions can be found on the MEC E safety website.

4. Working Alone Protocol
   a. Outlines custom laboratory policies and procedures to mitigate risk after hours.
   b. A template can be found on the MEC E safety website.

5. Chemical Spill Kit
   a. This kit is supplied by the Department. If you work with chemicals and do not have a spill kit, please contact the shop at 492-3639.

6. 1st Aid Kit
   a. This kit is supplied by the Department. If you do not have a safety kit, please contact the shop at 492-3639.

7. Fire Extinguisher
   a. All laboratories should have a fire extinguisher.
   b. Please notify the shop when an extinguisher has been discharged or the seal has been removed.

8. Telephone
   a. All laboratories should have a telephone.