Safety Rules for Laboratory

These protocols are intended to protect you and make your laboratory experience enjoyable and productive.

Section I: CVM General Laboratory Protocols (these rules apply to all CVM basic and clinical laboratories):

1. Familiarize yourself with the location of emergency exits, fire extinguishers, fire alarm pull stations, first aid kits, and emergency assembly points.
   a. If the fire alarms sound when you are in lab, leave the area immediately and proceed towards the nearest emergency exit; go to the assigned assembly area and check in with your instructor or other designated assembly leader.
   b. If fire starts unexpectedly in your lab, immediately **contact the instructor**.
      i. If you have been trained to use an extinguisher, you may attempt to put out the fire as long as it does not place you in danger of being trapped in a burning area. Stay between the fire and the exit at all times.
      ii. When using a fire extinguisher, aim for the base of the fire and sweep the extinguisher back and forth until the fire is out.
   c. If the room fills with smoke, drop to the floor and quickly crawl to safety. If the fire is not put out quickly, leave the area and pull an alarm station or call 911 on the way out.

2. Smoking, eating and drinking are ***NOT PERMITTED*** under any circumstances in the laboratory or in any areas where animals are housed or examined, or biological/diagnostic specimens are examined or otherwise handled.
   a. Many of the chemical reagents used in the lab are flammable, toxic and/or carcinogenic substances.
   b. Animals may be shedding zoonotic pathogens.
   c. Storage of food or drink for human consumption in laboratories or animal holding and treatment areas is not allowed.
   d. Coffee cups, water bottles, glasses or soda cans, etc., are prohibited.
   e. Contact with your mouth and eyes should be avoided. Wash your hands and leave the laboratory to adjust contact lenses or apply makeup or lip balm.

3. Laboratory attire includes a lab coat or coveralls, closed-toe shoes, safety glasses, and gloves. Wear your lab coat, coveralls or other protective outerwear (as appropriate for the lab) at all times when you are in lab or handling animals. Protective outerwear will protect you and your clothing from spilled chemicals, stains, pathogens, or other destructive toxic substances.
   a. **Laboratory attire**
      i. Short pants are not permitted, due to the danger of chemical splashes on bare skin. Sandals or other open-toe footwear are not permitted, again due to the danger of spilling corrosive substances or infectious materials on bare feet and other risks associated with animal work.
      ii. Full length laboratory coats with full length sleeves are appropriate for formal

laboratories. Appropriate protective outerwear when handling animals or biological/diagnostic specimens may be lab coats or overalls as determined by the instructor.

iii. Remove your protective outerwear, including rubber boots, when it becomes soiled and always before you leave the lab area. Remove soiled outerwear inside out without touching soiled areas and either discard or sequester (bag) for transfer to washing facilities.

iv. If you must take potentially soiled outerwear elsewhere for laundering, do so only after securing it in a plastic bag to prevent contaminants from leaving the laboratory area on the clothing. Empty the bag directly into a washing machine and launder in soap and hot water. Never wear soiled protective outerwear into public corridors or other public areas.

b. **Safety glasses**
   i. Wear safety glasses, goggles or other eye protection at all times when you are in the lab. Eyes are vulnerable to mechanical, infectious and chemical damage. These glasses will protect your eyes from splashes or splatters of chemicals and infectious materials, as well as many physical hazards.
   ii. Safety glasses must provide side-splash protection,
   iii. Individuals who wear prescription glasses will need to obtain safety glasses that fit over prescription glasses or obtain prescription safety glasses.

c. **Nose and mouth protection**
   i. Nose and mouth protection may also necessary if splashes are likely. A surgical type mask is appropriate for preventing contact with the nose or mouth. You will be informed by your instructor if this is required

d. **Gloves**
   i. Wear gloves when handling hazardous chemicals, live cultures or vaccines, animal secretions, excretions or other potentially infectious materials. Wear gloves when contacting potentially contaminated surfaces or equipment, and when cleaning or disinfecting surfaces or equipment.
   ii. Wear gloves for any invasive procedures such as necropsy or surgery, or when touching non-intact skin or mucous membranes.
   iii. Gloves must be removed before touching “clean” surfaces like refrigerator or incubator handles, doorknobs, and faucets. Gloves must be removed before leaving the lab work area, and should be removed inside out and placed into appropriate trash receptacles.
   iv. Always wash your hands after removing gloves.

e. **Hair**
   i. Students with long hair must tie it back or in some way bundle it, so that it does not interfere with work, become contaminated, or contaminate the work area.

f. **Hearing**
   i. Ear/hearing protection may be required in some lab areas during some procedures.

4. Keep your work area clean and organized while you are working.
   a. Wipe down the bench tops or other work areas with disinfectant or cleaner before

and after each lab exercise to ensure a clean work space. Do not assume that the person who used the area before you cleaned it effectively when they were finished.

b. Other required cleanup of lab work areas will be explained by your instructor. Keep equipment and labware clean and secured when not in use.
c. Some instruments are delicate and must be handled carefully and properly cleaned after each use. Your instructor will demonstrate and/or instruct you regarding the proper use and care of any equipment or supplies to be used during lab exercises.
d. Coats, books and other items must be stored in assigned areas while laboratory activities are in progress. This is to protect these items from spills, splashes or other mishaps as well as to help maintain a tidy work space.
e. Some experiments may require the use of open flames. Pay close attention when using open flames in the lab.
    i. Be very aware of the proximity of flammable substances, and never allow them to contact the flames. Labs often will use flammable solvents, such as alcohol used in staining procedures.
    ii. Never use flammable chemicals when flames are present. Not all flammable substances are lab solvents (e.g., hair; see 3.e. above). Pay close attention to what items are hot. Burns can occur when students grab ring stands, beakers or other items which have been heated and not allowed to sufficiently cool. Tongs, hot pads, and other devices are available for manipulating hot items as needed.
    iii. Never leave an experiment unattended while it is heating. Note that alcohol flames may not be clearly visible.

5. **<u>Report any accident, no matter how minor, to your instructor at once</u>**.

6. Follow proper procedures for the disposal of liquid and solid wastes. Your instructor will advise you of the proper method of disposal of experimental wastes and materials for your laboratory.
    a. Only paper may be discarded into the "**regular trash**." All used materials with a medical appearance and all infectious or potentially infectious wastes must be discarded into the biohazard trash. This trash is decontaminated by autoclaving before being discarded or is incinerated.
    b. **Chemical waste**
        i. Some chemical wastes must be collected in specific containers for proper disposal. Your instructor will tell you when this is necessary.
        ii. Read the labels on chemical reagent bottles, medications or vaccines carefully: make sure you have the correct substance before you begin to weigh, pour, pipette or withdraw. Help keep reagents pure by not cross-contaminating them with dirty instruments or needles. Scoops and spatulas should be carefully cleaned in-between each use.
        iii. Handle hazardous, volatile chemicals in a chemical fume hood.
        iv. Handle antineoplastic drugs and other particulate hazardous chemicals in a Class II Biological Safety Cabinet.
    c. **Microbial waste**

i. Microbial cultures are disposed by autoclaving or incineration. Hard sided waste receptacles with autoclavable bags are available in the laboratory.
ii. **Never** pour bacteria or other microorganisms or hazardous chemicals down the drain or in the ordinary paper trash.

d. **Sharps**. There is a University policy on the handling of sharps as defined by the State of Oregon. See http://oregonstate.edu/ehs/sites/default/files/pdf/sharpsmanagementplan7-10.pdf. Oregon regulations require that sharps be discarded in commercially available red or orange, leak-proof, rigid, puncture-resistant containers and must have the universal biohazard symbol. Ask your instructor if you are unclear if a particular item should be disposed of as a sharp.

i. Sharps include:
   a) Syringes removed from their original wrappers
      1) No matter what their purpose, never throw used syringes into the regular trash or biohazard non-sharps solid waste receptacles.
   b) Used microscope slides.
   c) Used glass culture tubes that have not been decontaminated.
   d) Used hollow-bore needles or needle – syringe units.
   e) Suture needles
   f) Cannulae
   g) Lancets.
   h) IV tubing with needles attached.
   i) Scalpel blades or disposable scalpels.
   j) Vials containing modified live vaccines.
   k) Vacutainer/blood collection tubes

ii. ***DO NOT RECAP NEEDLES BEFORE DISPOSAL*** into the sharps container. In exceptional circumstances, if re-sheathing CANNOT be avoided, a re-sheathing/removing device, forceps, hemostat, or a one-handed technique must be used. Under no circumstances may a needle be re-sheathed using two hands.
iii. Do not fill sharps containers above the manufacturers marked line. Check the sharps container before use to ensure it is not overfilled. If the closest sharps container is full, contact your instructor for a new container.
   a) Never attempt to retrieve any items from a sharps container.
   b) Never attempt to press down on the sharps or shake the container to make more room in the sharps container.
iv. Used sharps must never be carried by hand or on a tray, they must be disposed of directly and immediately into a sharps container.
v. It is the responsibility of the person(s) using the sharp to dispose of it properly.

e. **Waste glass** (non-sharps). Most laboratory glass not defined as a sharp can be discarded to the landfill in a hard-sided container such as a cardboard box.
i. Broken beakers, flasks, pipets, test tubes etc.
ii. Empty medicine vials (except modified live vaccine vials).

f. ***Never*** place solid wastes of any type in the sink drains: this will clog the P-traps under the sinks.

7. In the event of an accident
   a. **Spills of Blood or other Biological Materials**
      i. Notify persons nearby of the presence of a spill, so they can avoid the area
      ii. Immediately leave the vicinity of the spill and **notify the instructor**. The instructor will oversee cleanup of the spill:
      iii. When cleaning up a biological spill
         a) Get out the spill kit (if available) and don a pair of gloves.
         b) Pick up any broken glass or other solid materials with the tongs or forceps.
         c) Cover the liquid area with paper towels or other absorbent material.
         d) Flood the area with bleach or other disinfectant.
         e) Scrape up the absorbed spill with a dust pan; discard to the biohazard bag.
         f) Disinfect the entire area again, wipe dry with paper towels.
         g) Discard used paper towels and gloves to the biohazard bag.
         h) Wash your hands with soap and warm water.
      iv. If a splash involving live cultures, blood, body fluid or secretions, or liquid chemicals get into your eyes, mouth or nose, go immediately to the eyewash station and flush for 15 minutes with running water. **Notify the instructor.**
   b. **Animal bites**
      i. Serious zoonotic diseases may be present in pet animals, wild animals and especially non-human primates. If you are bitten by an animal, promptly wash the bite with soap and warm water, treat with antiseptic from a first aid kit, and seek medical attention if needed. **Notify the instructor**.
      ii. Attempt to determine the vaccination status of the animal.
      iii. In the State of Oregon, all animal bites must be reported to the local Health Department within one working day.
   c. **Chemical spills**
      i. **Notify the instructor.**
      ii. When cleaning up a chemical spill
         a) Get out the spill kit (if available) and don a pair of gloves.
         b) Pick up any broken glass or other solid materials with the tongs or forceps.
         c) Cover the liquid area with paper towels or other absorbent material.
         d) Scrape up the absorbed spill with a dust pan; discard as instructed.
         e) Wash your hands with soap and warm water.
      iii. If a corrosive liquid like an acid, base or solvent gets on your skin, quickly rinse the skin with copious amounts of running water and **inform the instructor**.
   d. **Needle-stick** or other Sharps Accidents; contact with non-intact skin
      i. **Inform the instructor.**
      ii. Wash the affected area with soap and hot or warm water. Treat with antiseptic from a first aid kit.
      iii. Serious injuries or those involving modified live veterinary vaccines may require medical attention; seek the advice of the Occupational Medicine professionals in Student Health Services.

8. Physical Injuries
    a. Physical injuries are an occupational hazard of veterinary medicine. Injuries such as bites, scratches and kicks are common. You can reduce your risk by proper use of restraining devices, protective clothing, footwear (reinforced toes when working with large animals are recommended), and eye protection.
    b. Your instructor will demonstrate proper handling and approach of animals.
    c. **Report all injuries to your instructor.**

Section II: <*COURSE NAME*>: Course specific risk assessment

There are many risks associated with the practice of veterinary medicine. While it is not possible to identify all the risks associated with a particular activity, the following are known potential hazards when participating in this course.

1. Known chemical hazards in this course: LIST
2. Known infectious hazards in this course: LIST
3. Known radiation hazards in this courses: LIST
4. Known physical hazards in this course : LIST

Section III: <*COURSE NAME*> specific laboratory safety protocols:

For your safety, the instructors of this course have added the following procedures in addition to the laboratory procedures listed in section I:

1. This lab follows the laboratory attire policy as stated above. In addition :
    a.
    b.
    c.
    d.
2. This lab follows the laboratory procedure on care of the work area as stated above except :
    a. Work area preparation:
        i.
        ii.
        iii.
    b. Supplies
        i.
        ii.
        iii.
    c. Care of equipment
        i.
        ii.
        iii.

3. This laboratory follows the procedure on disposal of materials outlined in Section I. In addition:
   a.
   b.
   c.