

# Biology Lab Safety Procedures and Information

Health and safety are paramount values in science classrooms, laboratories and field activities. You are expected to learn, understand and comply with ACC environmental, health and safety procedures and agree to follow the ACC science safety policy. You are expected to conduct yourself professionally with respect and courtesy to all. You can read the complete ACC science safety policy at: [http://www.austincc.edu/sci\\_safe/](http://www.austincc.edu/sci_safe/)

***All safety policies and procedures apply to scheduled lab classes as well as open labs.***

## **Consequences for not complying with safety procedures:**

1. You will not be able to participate in a lab activity if:
  - a. you are late for class and have missed safety training specific for that day's lab or field activity;
  - b. you have forgotten your personal protective equipment;
  - c. you refuse to wear personal protective equipment;
  - d. you have not followed safety policies and procedures for that lab or field activity.
2. You may be withdrawn from the class and not reinstated if:
  - a. you missed required safety training at the beginning of the semester;
  - b. you repeatedly fail to follow lab safety policies and procedures.
3. You may be expelled from ACC if you thoughtlessly or intentionally jeopardize the health or safety of another individual.

## **Emergencies**

If there is a fire, major chemical spill or other emergency:

1. Call ACC Police Dispatch as soon as possible. Tell the operator your campus \_\_\_\_\_ and exact location in the building \_\_\_\_\_.  
Location of nearest ACC phone: \_\_\_\_\_  
**ACC POLICE DISPATCH: 222** (from an ACC phone)  
**223-7999** (from a cell or other phone)
2. If evacuation is necessary:
  - a. take your personal belongings with you if possible;
  - b. on your way out, close but do not lock the classroom door;
  - c. go to the designated rally point away from this building.  
Directions to nearest exit: \_\_\_\_\_  
Location of rally point: \_\_\_\_\_

## **Safety Equipment and How to Use It:**

- Information about chemicals used in this laboratory can be found in Material Safety Data Sheets (MSDSs) and in a chemical inventory located \_\_\_\_\_.
- The emergency gas shut-off for this lab is located: \_\_\_\_\_. Shut off the gas immediately if gas nozzles or valves are damaged or if there is a fire.

- Fire extinguishers are located: (1) \_\_\_\_\_.  
(2) \_\_\_\_\_.

To use a fire extinguisher:

- 1) twist the pin and then pull it out of the handle
- 2) hold the end of the hose and point it at the base of the fire
- 3) squeeze the handle

- Fire blankets are located: (1) \_\_\_\_\_.  
(2) \_\_\_\_\_.

If you are on fire, stop, drop and roll. Let someone else to get the fire blanket.

- A safety shower is located \_\_\_\_\_. If you spill a significant quantity of chemical, especially an acid or base on yourself immediately stand under the shower and pull the handle. Disrobe. The instructor will evacuate the room and close the doors for your privacy. Someone of your gender will stay to help you. Stand under the shower for at least 20 minutes. You will be given clothing after the shower.
- An eyewash is located \_\_\_\_\_. If a chemical is splashed or rubbed into your eyes you must use an eyewash for at least 20 minutes with your eyes held open. Someone will help you with this.
- If a person is experiencing electrical shock from touching wires or equipment, use a belt or other non-conducting material to pull them away from the electrical source.
- First aid kits are located: (1) \_\_\_\_\_.  
(2) \_\_\_\_\_.

  - a. Only minor cuts and burns will be treated in the lab. Serious injuries must be treated in a medical facility. Emergency Medical Services (EMS) will be called if you are injured and are unable to take yourself to a medical facility.
  - b. The instructor must fill out a report describing your injury.

## Personal Protective Equipment (PPE)

1. Safety Eyewear:
  - a. You must wear safety eyewear (safety glasses or goggles) marked Z87 when directed to do so by the lab instructor or lab safety instructions. You must bring your protective eyewear with you to every lab class. If you forget your eyewear and the lab room does not have a pair to loan to you, you will not be able to participate in the lab and may forfeit your lab grade for that day. ACC cannot guarantee that loaned safety glasses or safety goggles are uncontaminated by microbes or chemicals.
  - b. People who wear contact lenses must wear goggles and may not wear safety glasses.
2. Gloves – You will be provided with nitrile gloves for handling hazardous chemicals and may be provided with latex gloves for handling biohazards. Please notify the instructor if you have a latex allergy.
3. Shoes – You must wear closed-toed shoes in lab.
4. Apron – You may be told to wear an apron (or lab coat) over your clothes when handling chemicals.

5. Other:
- tie back long hair in labs involving open flames;
  - do not wear clothing with long, loose sleeves;
  - wear natural fiber clothing (synthetic material melts onto skin in a fire);
  - remove watches, rings, and bracelets during lab activities involving chemicals.

### **Waste Disposal**

You must precisely follow the waste disposal procedures. Never dispose of anything in lab without prior direction from the instructor.

- Hazardous chemical waste containers are located:  
solids \_\_\_\_\_  
liquids \_\_\_\_\_
- Biohazard bags are located: \_\_\_\_\_
- Sharps containers are located: \_\_\_\_\_
- Glass (rinsed test tubes and broken glass) disposal boxes are located:  
\_\_\_\_\_
- Regular trash containers are located: \_\_\_\_\_

### **Lab Conduct**

- At the beginning of any class held in a lab room, do not enter the room until your instructor is present. Wait in the hall, even if the door is open.
- Do these things:
  - follow all procedures in manuals, in handouts, and as given by the instructor;
  - store backpacks, coats, and other personal items as directed;
  - report broken glass and chemical spills to your instructor immediately.
- Do NOT do these things:
  - come to class while intoxicated or while under the influence of drugs that impair your ability to safely perform the lab or field activity;
  - horse around or perform unauthorized experiments;
  - eat, drink, or chew (tobacco or gum);
  - bring drinks or food (even in closed containers) into the lab;
  - pipet by mouth;
  - taste chemicals or directly smell chemical fumes.

### **Lab Hygiene**

- Clean up your individual work area/equipment and community work areas/equipment (e.g., sinks, balances).
- Put lids back on bottles and containers immediately after use.
- Do not put excess chemicals back into original containers.
- Dispose of chemicals and waste only as directed by the instructor.
- Wash your hands prior to leaving lab.
- Assume that chemicals used in lab are corrosive or irritating. If at any time chemicals come into contact with your skin wash the affected area immediately.

## Disease

Diseases such as HIV and hepatitis can be transmitted from person to person through contact with human blood or other body fluids. Follow the Universal Precautions whenever exposure to human body fluids is possible:

- Consider all body fluids (saliva, blood, urine, feces, vomit) to be potentially infected with a harmful pathogen.
- Do not touch or come into contact with anyone else's body fluids.

## Chemical Hazard Labels

- Label containers/test tubes if you are using more than one container per lab.
- Inform your instructor immediately if a label is damaged in any way.
- Read all labels and pay special attention to hazard information.

A typical chemical hazard label conveys two kinds of information: the category of the hazard (flammable, toxic, reactive, or corrosive) and the level of the hazard. There are two main types of labels: those shaped like diamonds and those shaped like bars. In both types the category of hazard is represented by a color and the level of the hazard is represented by a number.

1. Hazard categories are coded by color:

red	fire hazard, flammability
blue	health hazard, toxicity
yellow	reactivity
white (diamond-shaped labels)	provides more specific information about the hazard (example: acid)
white (bar-shaped labels)	tells you what kind of protective equipment (PPE) is required for handling that chemical

2. Hazard level is coded by a number:

0	minimal
1	slight
2	moderate
3	severe, serious
4	extreme

3. Refer to the training poster in your lab for examples.
4. Other types of hazard warning labels you must recognize are:
  - a. biohazards;
  - b. radioactive materials.