

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/

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 You may be withdrawn from the class and not reinstated if: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 life-threatening emergency (fire, major chemical spill, explosion, injury):

1. Report the situation and your specific location (campus, room) by
 - using the safety phone in a lab classroom; it will automatically connect you to ACC Police Dispatch (location of safety phone _____)
 - calling 222 from any ACC phone to reach ACC Police Dispatch
 - calling 512-223-7999 from a cell phone or non-ACC phone to reach ACC Police Dispatch
2. Evacuate if 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 for your campus and building.
Directions to nearest exit: _____
Location of rally point: _____

In the event of an extreme emergency or impending threat, ACC Emergency Alert can send critical voice and text messages to your cellphone. Verify and update your ACC Emergency Alert information. For non-emergency calls, dial 512-223-1231.

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. Required when biological, chemical or physical hazards are present on the lab benches, open shelves or counters:

- a. Safety Eyewear
 - You must wear non-tinted 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.

- People who wear contact lenses must wear goggles and may not wear safety glasses.
- b. Gloves – You will be provided with nitrile gloves for handling biohazards and hazardous chemicals. Please notify the instructor if your skin is irritated by these gloves.
- c. Shoes – Shoes must cover the top, front and sides of your feet. They must be impervious to liquids.
- d. More specific requirements may exist for labs in which unique hazards are present (for example: BSL2 organisms or physical hazards such as sharps, open flame, UV light, pressurized gases, or liquid nitrogen).

2. Recommended when biological, chemical or physical hazards are present on the lab benches, open shelves or counters:

- a. Apron or Lab Coat – You may be instructed to wear an apron or lab coat over your clothes when handling biohazards or hazardous chemicals.
- b. Wear natural fiber clothing for any lab activity involving open flame (synthetic material melts onto skin in a fire).
- c. Before putting on gloves remove watches, rings, and bracelets that could either puncture the glove from the inside or interfere with rapid removal of the gloves.
- d. Tie back long hair.
- e. Do not wear clothing with long, loose sleeves.

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

- 1) 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.

- 2) 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.
- 3) 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.
- Turn off equipment as instructed.
- 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.

Standard / Universal Precautions

Diseases such as HIV and hepatitis can be transmitted from person to person through contact with human blood or other body fluids. Follow the Standard or 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.

Student Accident Insurance

All students enrolled in lab classes are covered by Student Accident Insurance that pays for injuries occurring from school sponsored activities related to the class. It does not pay for illnesses such as allergies or the flu, or fainting. All faculty and students should read the guidelines at

<http://www.austincc.edu/offices/environmental-health-safety-and-insurance/student-insurance>. You can also download the claim form from this location.

Chemical Hazard Labels

- Label all containers and test tubes as directed.
- 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: 1) the category of the hazard (flammable, toxic, reactive, or corrosive) and 2) the level of the hazard.

There are three types of labels: 1) GHS (Globally Harmonized System - the international system of hazard identification), 2) diamond-shaped hazard labels, and 3) bar-shaped hazard labels.

GHS labels are found mostly on primary containers, the jars or packages in which the chemical manufacturer packaged the chemicals.

The GHS system labels include icons that warn you about the major type or types of hazards associated with the chemical.



Most of the containers you use in lab are secondary containers such as flasks, test tubes, jars, and beakers. Secondary containers will have either the diamond shapes or the bar shapes. In both of those labels 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	provides more specific information about the hazard
white bar	identifies protective equipment (PPE) required to handle chem.

2. Hazard level is coded by a number:

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

3. Refer to the training poster in your lab for examples.

Other types of hazard warning labels you must recognize are:

a. biohazards	b. radioactive materials
	