

# PHYSICAL SCIENCES STUDENT LABORATORY SAFETY CONTRACT CENTRAL CAMPUS



This contract is used for the following courses: Astronomy, Earth Science, Geology, Oceanography, Physical Sciences Survey, and Physics.

Potential hazards exist in all laboratories and some can cause serious accidents. Fortunately, most accidents can be prevented if each person in the lab observes a set of common sense precautions and uses proper experimental procedures. The following rules are to be observed at all times.

Please read the following carefully and be sure that you understand the contents completely prior to filling in the information and signing.

## Covid Information

"Broward College cannot guarantee a COVID-19 free environment. An inherent risk of exposure to COVID-19 exists in any public place where people are present. By coming onto campus, you understand that there is a risk of contracting COVID-19" (Advisory #14 8/5/2020)

*Students who choose to wear a mask:* cotton masks are recommended as polyester or synthetic masks can catch on fire when working with open flame.

## Medical Conditions

If a student has any medical condition which might be affected by chemistry laboratory work (allergies for example) or which might affect safe performance of laboratory work (seizure disorders, for example), it is essential that the student inform the course instructor well in advance of the initiation of any laboratory work.

## Never Work Alone

No laboratory work may be carried out without the supervision or authorization of an instructor. Absolutely no unauthorized experiments are to be performed. Never work in the laboratory alone. All experiments are to be **performed as written** in the lab manual or handout or as modified by the instructor.

## Protective Clothing and Dress

Wear sensible clothing in the laboratory. Sandals are prohibited, as are shorts, short skirts, and bare midriffs. Long hair must be pulled back and only closed-toe shoes are allowed.

### Personal Safety Equipment:

- A.** Goggles must meet **ANSI Z87.1-1989 standards** for chemical splash and impact resistance and must be used when chemicals or projectiles are present. *Safety glasses are prohibited.*
- B.** Students must wear **gloves** at all times in the laboratory when chemicals are present. At the end of the lab, the gloves are to be disposed of and hands washed before exiting the lab.
- C.** Students must wear the supplied disposable laboratory **apron** when using chemicals.
- D.** Students must wear **closed-toe shoes** at all times. Leather shoes are suggested for best protection.

## Handling Chemicals and Equipment

Never put anything in your mouth in the laboratory. **No eating, drinking, gum chewing, candy, or smoking** permitted in the laboratory.

Flammable solvents such as ether, acetone, toluene, alcohols, etc., must be kept well away from open flames.

**All chemicals** should be handled with care using goggles, gloves, and wearing an apron and be considered toxic, corrosive, flammable and/or pungent unless your instructor informs you otherwise. Read all labels carefully.

Use only what is needed. Never pour unused reagent back into the reagent bottles.

Return chemicals immediately to their proper places. **Replace lids on all containers immediately after use.** Leaving containers open increases everyone's exposure to the substances within them. Spills are also more likely when a container is open. In addition, some reagents can be ruined by excessive exposure to air.

If you spill a chemical, alert your laboratory instructor. He will instruct you on proper clean-up procedures.

Keep all chemical containers covered to prevent contamination of the laboratory with fumes.

Never heat a closed container.

Use only equipment that is in good condition. Report broken or malfunctioning equipment (power supplies, ammeters, hot plates, etc) to your instructor. Do not use broken glassware; replace it. Dispose of any broken glass in the designated cardboard containers in the lab.

Do not force glass tubing (or thermometers) into rubber stoppers, do not force tubing onto flasks or other equipment, etc.; lubricate the glass with glycerine. Protect your hands with towels when inserting glass into a stopper. Handle all **glassware and equipment** properly and according to safety regulations to avoid cuts and burns. Never struggle with the equipment, if you are unsure or need assistance, ask your instructor for details on the proper procedure.

## **Waste**

You may dispose of dilute acids with plenty of water in the sinks in the laboratory. All other **chemicals should be disposed of in labeled waste containers** located on the front counter. Never put any chemical waste in the trash, down the drain, or in any container not labeled as waste. Check with your instructor for proper disposal information.

## **Accidents**

Check and memorize the location of the fire extinguisher, safety shower, and eye wash station. Be prepared and know how to use this equipment in case of an emergency. Learn and memorize the locations of the building exits and evacuation routes.

Use an eyewash station if a chemical comes into contact with your eyes. Just place your face between the two fountains and press the lever to activate the water. Try to keep your eyes open as best you can, as this flushes them much more effectively.

Report any accident or injury to your instructor immediately. Your instructor will contact Campus Safety personnel and/or call 911 in the event of an accident or injury.

In case of fire, alert your instructor and other students immediately and exit the laboratory in an orderly fashion, if instructed to do so. Never attempt to extinguish a fire by yourself.

## **Working Cleanly and Efficiently**

Never begin an experiment without reading the complete procedure first.

Keep your laboratory bench and all other working areas clean at all times and free of items not related to the experiment.

**Balances must be kept clean.** Do not put any chemicals directly on the balance pans. Clean up all spills immediately. See your instructor for details. Follow all instructions on how to properly use the balances. If

you have any questions, ask your instructor. Close all containers tightly and clean up the surrounding area.

At the close of the laboratory put everything away. Clean your tabletop and other working areas.

All labels must be removed from all glassware including tubes, beakers, flasks, etc. when you are done with the lab.

All paper towels, filter papers, labels, etc. must be cleaned from the countertops, tables, and sinks and placed in the proper receptacles.

Tighten the lids on all jars and bottles of chemicals. Do not leave any container open to the air.

### **Gas Jet Procedure**

When lighting the burner, open up flow valve on burner, turn on gas, use striker to light the burner.

When shutting off, turn the burner off first then turn the gas jet to the off position by turning clockwise all the way. Turn off the gas (burner and jet) immediately after finishing with it.

### **Other**

Report any unsafe laboratory condition or situation to your instructor immediately.

Put things back where you found them. This includes any special equipment and anything non-disposable.

Do not make any changes to the computers when they are set up in your lab.

Never look directly into lasers or UV lamps.

As a matter of routine, **always wash your hands** thoroughly before leaving the lab. Arms and face may require washing if chemical contact is made with these surfaces.

If you are unsure of any of the above procedures, discuss this matter with your instructor.

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**Any student not complying with the above regulations will be asked to leave the lab.**

Keep a copy of this Laboratory Safety Contract in your notebook at all times.

You must go to the following webpage to download, read, electronically sign, and submit a copy of this Safety Contract to your instructor.

<http://sites.broward.edu/science-wellness-central/physical-sciences-electronic-signature/>

A copy should also be uploaded and available to you in your D2L course.