

*Wolfson Campus*  
*Natural Science Department*  
*Biology Laboratory*



*Student Safety Contract*



*July 2000*





Wolfson Campus

# Student Safety Contract-Biology Laboratory

## Purpose

The Biology laboratory is a hands-on learning environment. You will be doing many laboratory activities which require the use of biohazardous materials and hazardous chemicals. Safety in the laboratory is the #1 priority for students and instructors. To ensure a safe Biology laboratory, a list of rules has been developed and provided to you in this student safety contract. These rules must be followed at all times. Two copies of the safety contract student agreement are provided. One copy must be signed by you before you can participate in the laboratory. The second copy is to be kept with your safety contract and lab notes as a constant reminder of the safety rules.

## General Guidelines

1. Conduct yourself in a responsible manner at all times in the laboratory.
2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ask the instructor before proceeding.
3. When first entering a Biology laboratory, do not touch any equipment, chemicals, or other materials until you are instructed to do so.
4. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
5. Perform only those experiments authorized by the instructor. Never do anything in the laboratory that is not called for in the laboratory procedures or by your instructor. Carefully follow all instructions, both written and oral. Unauthorized experiments are prohibited.
6. Be prepared for your work in the laboratory. Read all procedures

thoroughly before entering the laboratory. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.

7. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times. Table tops, fume hoods, lab chairs and sinks should be cleaned at the end of lab class. Lab material, lab chairs and equipment should be returned to their proper storage location). Bring only your laboratory instructions, worksheets, and/or reports to the work area. Other materials (books, purses, backpacks, etc.) should be stored in a safe place.
8. Keep aisles clear. Push your chair under the desk when not in use.
9. Know the locations and operating procedures of all safety equipment including the first aid kit, eyewash station, safety shower, fire extinguisher. Know where the fire alarm and the exits are located.
10. Always work in a well-ventilated area. Use the fume hood when working with volatile substances or poisonous vapors. Never place your head into the fume hood. Use the Biohood when working with biohazardous materials.
11. Be alert and proceed with caution at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
12. Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water and those solutions designated by the instructor. Solid chemicals, metals, matches, filter paper, and all other insoluble materials are to be disposed of in the proper waste containers, not in the sink. Check the label of all waste containers twice before adding your chemical waste to the container.
13. Labels and equipment instructions must be read carefully before use. Set up and use the prescribed apparatus as directed in the laboratory instructions or by your instructor.
14. Keep hands away from face, eyes, mouth and body while using chemicals biohazardous materials or preserved specimens. Wash your hands with soap and water after performing all experiments. Clean (with detergent),

rinse, and wipe dry all work surfaces (including the sink) and apparatus at the end of the experiment. Return all equipment clean and in working order to the proper storage area.

15. Experiments must be personally monitored at all times. You will be assigned a laboratory station at which to work. Do not wander around the room, distract other students, or interfere with the laboratory experiments of others.
16. Know what to do if there is a fire drill during a laboratory period; containers must be closed, gas valves turned off, fume hoods turned off, and any electrical equipment turned off.
17. When using knives and other sharp instruments, always carry with tips and points pointing down and away. Always cut away from your body. Never try to catch falling sharp instruments. Grasp sharp instruments only by the handles.

### **Clothing**

18. Dress properly during a laboratory activity. Wear protective laboratory clothing when necessary. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back and dangling jewelry and loose or baggy clothing must be secured. Shoes must completely cover the foot. No sandals allowed.
19. Gloves must be worn for all procedures that might involve direct skin contact with toxins, blood, infectious materials, or infected animals. Rings or hand jewelry which would interfere with glove functioning should be removed before gloving. Gloves should be removed carefully and decontaminated with other laboratory wastes before disposal. Reusable gloves (e.g. insulated, chemical resistant, etc.) may be used only where necessary and must be appropriately decontaminated.

### **Accidents and Injuries**

20. Report any accident (spill, breakage, contamination, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.

21. If you or your lab partner are hurt, immediately get the instructor's attention.
22. If a chemical should splash in your eye(s) or on your skin, immediately flush with running water from the eyewash station or safety shower for at least 20 minutes. Notify the instructor immediately.
23. When mercury thermometers are broken, mercury must not be touched. Notify the instructor immediately.

### **Handling Chemicals**

24. All chemicals in the laboratory are to be considered dangerous. Do not touch, taste, or smell any chemicals unless specifically instructed to do so. The proper technique for smelling chemical fumes will be demonstrated to you.
25. Check the label on chemical bottles twice before removing any of the contents. Take only as much chemical as you need.
26. Never return unused chemicals to their original containers.
27. Never use mouth suction to fill a pipet. Use a rubber bulb or pipet pump.
28. When transferring reagents from one container to another, hold the containers away from your body.
29. Acids must be handled with extreme care. You will be shown the proper method for diluting strong acids. Always add acid to water, swirl or stir the solution and be careful of the heat produced, particularly with sulfuric acid.
30. Handle flammable hazardous liquids over a pan to contain spills. Never dispense flammable liquids anywhere near an open flame or source of heat.
31. Never remove chemicals or other materials from the laboratory area.
32. Take great care when transferring acids and other chemicals from one part of the laboratory to another. Hold them securely and walk

carefully.

33. Hands must be washed after gloves are removed, before leaving the laboratory, and at any time after handling materials known or suspected to be contaminated.
34. Work surfaces must be cleaned and decontaminated with a suitable disinfectant at the end of the day and after any spill of potentially dangerous material. Loose or cracked work surfaces must be replaced or repaired.
35. All technical procedures must be performed in a manner that minimizes the creation of aerosols.
36. All contaminated or infectious liquid or solid materials must be decontaminated before disposal or reuse. Contaminated materials that are to be autoclaved or incinerated at a site away from the laboratory must first have the outside of the container disinfected chemically or be double-bagged.

### **Handling Glassware and Equipment**

37. The proper care and operation of lab equipment (balances protected by weighing paper, balances shutdown at the end of class, **computers shutdown at the end of class, keyboards, mice and monitors returned to storage position/location**) should be followed.
38. Students should perform their experiments at a safe distance from laboratory computers (to prevent spills and/or reactions from damaging the machines).
39. Carry glass tubing, especially long pieces, in a vertical position to minimize the likelihood of breakage and injury.
40. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken or waste glassware in the designated glass disposal container.
41. Inserting and removing glass tubing from rubber stoppers can be dangerous. Always lubricate glassware (tubing, thistle tubes, thermometers, etc.) before attempting to insert it in a stopper. Always

protect your hands with towels or cotton gloves when inserting glass tubing into, or removing it from, a rubber stopper. If a piece of glassware becomes "frozen" in a stopper, take it to your instructor for removal.

42. Fill wash bottles only with distilled water and use only as intended, e.g., rinsing glassware and equipment, or adding water to a container.
43. When removing an electrical plug from its socket, grasp the plug, not the electrical cord. Hands must be completely dry before touching an electrical switch, plug, or outlet.
44. Examine glassware before each use. Never use chipped or cracked glassware. Never use dirty glassware.
45. Report damaged electrical equipment immediately. Look for things such as frayed cords, exposed wires, and loose connections. Do not use damaged electrical equipment.
46. If you do not understand how to use a piece of equipment, ask the instructor for help.
47. Do not immerse hot glassware in cold water; it may shatter.

### **Heating Substances**

48. Exercise extreme caution when using a gas burner. Take care that hair, clothing and hands are a safe distance from the flame at all times. Do not put any substance into the flame unless specifically instructed to do so. Never reach over an exposed flame. Light gas (or alcohol) burners only as instructed by the teacher.
49. Never leave a lit burner unattended. Never leave anything that is being heated or is visibly reacting unattended. Always turn the burner or hot plate off when not in use.
50. You will be instructed in the proper method of heating and boiling liquids in test tubes. Do not point the open end of a test tube being heated at yourself or anyone else.

51. Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution. Use tongs or heat-protective gloves if necessary.
52. Never look into a container that is being heated.
53. Do not place hot apparatus directly on the laboratory desk. Always use an insulating pad. Allow plenty of time for hot apparatus to cool before touching it.
54. When bending glass, allow time for the glass to cool before further handling. Hot and cold glass have the same visual appearance. Determine if an object is hot by bringing the back of your hand close to it prior to grasping it.



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## Student Agreement

I, \_\_\_\_\_ (student's name) have read and agree to follow all of the safety rules set forth in this contract. I realize that I must obey these rules to insure my own safety, and that of my fellow students and instructors. I will cooperate to the fullest extent with my instructor and fellow students to maintain a safe lab environment. I will also closely follow the oral and written instructions provided by the instructor. I am aware that any violation of this safety contract that results in unsafe conduct in the laboratory or misbehavior on my part, may result in being removed from the laboratory, receiving a failing grade, and/or dismissal from the course.

Student Signature \_\_\_\_\_

Date \_\_\_\_\_



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