



Each person working in a USF laboratory, regardless of his or her role, should be actively involved with laboratory upkeep. Laboratory managers, instructors, paid student workers, and enrolled students all play a part in maintaining a safe and well-stocked space. Instructors play a very important role, as they are a bridge between students and management. This document outlines various responsibilities of those who share USF laboratories.

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I. Laboratory Safety

A. Instructor responsibilities:

1. Familiarize yourself with the Lab Safety page at the USF website (the web address is **www.usfca.edu/artsci/labsafety**). Below are some important documents which can be found on the Lab Safety site:
 - a. *Chemical Hygiene Plan* (CHP) – contained within Appendix A of the *Laboratory safety Policy* listed under “Forms.”
 - b. *Injury & Illness Prevention Program* (IIPP) – found under “Forms.”
 - c. *Incident Report* – found under “Forms.”
 - d. *MSDSonline* – can be found by clicking “SDS (Safety Data Sheets)” under “Helpful Resources.” The username is “chem” and the password is “bohr.”
2. Complete the safety training video by following the link emailed to you by Craig Conforti. The video and quiz should be completed by the date of the first laboratory session. If you have passed a safety training program at your home institution, proof of completion can be submitted in lieu of completing the USF safety training video.
3. All instructors will participate in a Laboratory Safety Training session with the Biology Laboratory Manager and Laboratory Safety Manager prior to their first laboratory session. This safety training will last around 30 minutes and may be part of a longer instructor meeting with the Course Coordinator. During this time you will learn how to interpret the Chemical Hygiene Plan (CHP) flipchart located in each laboratory. Following this training you will sign the CHP and complete a Laboratory Safety Contract.

4. Instructors will go over the *Student Safety Contract* with all lab students during the first lab session. Signed contracts should be returned to the Biology Program Assistant or Biology Laboratory Manager. Once collected, the forms will be scanned for departmental files and returned to the instructor. These forms should be returned to the students for their reference.
 5. Instructors must enforce the following USF Department of Biology safety rules throughout the entire semester:
 - a. Minimum lab attire for everyone in the lab is long pants (or equivalent) and closed-toed shoes. Shorts and flip-flops are inappropriate for the laboratory.
 - b. Students should wear the proper Personal Protective Equipment (PPE) when appropriate. When handling hazardous materials or working in BSL-2 labs, PPE includes lab coats, gloves, and eye protection. All PPE is available in Harney 355. If you are not sure what type of PPE to use for your class, contact the Biology Laboratory Manager or the Laboratory Safety Manager.
 - c. No food or drinks are allowed in any instructional lab.
 - d. No visitors are allowed in any instructional lab. This policy includes friends and relatives of students.
 6. Ensure all chemical waste generated throughout each laboratory period is labeled and properly contained before you leave for the day. With guidance from the lab instructor, the students are ultimately responsible for containing their own waste.
 7. Complete an Incident Report for all accidents, chemical spills, and near misses. The completed Incident Report should be submitted to the Biology Laboratory Manager or the Laboratory Safety Manager.
- B. Biology Laboratory Manager and Laboratory Safety Manager responsibilities:
1. Ensure all necessary PPE is available for everyone working throughout the labs.
 2. Evaluate all experiments to ensure they are appropriate and safe for USF laboratories.
 3. Provide the proper containers for collection of lab waste, including both chemical waste and biohazard waste.

II. Course Supplies

- A. Biology Laboratory Manager responsibilities:
1. The lab manager provides supplies, chemical solutions, and equipment in accordance with the Course Materials List and order sheets provided by the instructor. **Course Materials Lists and order sheets should be completed at least two weeks prior to the first day of the semester**, as outlined in the next section. A blank order sheet and a sample completed order sheet will be emailed to all instructors at least one month before the start of the semester. If the Course Materials List and order sheets are not submitted at least two weeks before the first day of classes, there is no guarantee that the materials needed for your course will be on hand for each lab period.

B. Instructor responsibilities (applicable only to course coordinators and faculty responsible for teaching classes on their own):

1. A *Course Materials List* should be submitted to the Biology Laboratory Manager at least two weeks before the first day of classes. The Course Materials List is a document or spreadsheet of supplies, equipment, and chemical solutions needed for each laboratory period. This document or spreadsheet should include the date and title for each experiment, as well as any chemical solutions, glassware, and other supplies needed for each date. **For Fall 2015 semester, Course Materials Lists are due on Tuesday, August 10th by 5 PM.**
 - a. For supplies and equipment, include the quantities needed. For example, if you need forceps, include the quantity. You may need one per student, or one per pair of students, or one to be shared by the entire class.
 - b. For glassware (beakers, Erlenmeyer flasks, test tubes, etc.), include a quantity and size. For example: 8 x 125-mL Erlenmeyer flasks or (3) 100-mL graduated cylinders. The quantity and size should be determined by the number of students you have, the size of the working group, and the volume to be handled with the glassware.
 - c. For chemical solutions, always include the concentration and amount needed. If you require a solution to be divided into smaller bottles, this should be indicated on your Course Materials List. Always indicate what type of bottle is required if the solution is to be divided: amber sample bottle, clear dropper bottle, amber dropper bottle, 50-mL culture bottle, etc.

As an example, "starch solution" should not be written on your Course Materials List. Instead, write "500 mL of 1% starch solution in a plastic bottle." If you want something divided into a number of bottles, do not write "dropper bottles of silver nitrate." Instead, write "8 amber dropper bottles of 1M silver nitrate solution."
 - d. An order form should be completed for all molecular biology reagents, live organisms, and special kits that are ordered new each semester. See the next section for more information about order forms.
2. Order forms must be submitted to the Biology Laboratory Manager for the whole semester together with the Course Materials List two weeks before the semester starts. Order forms are required for all molecular biology reagents, live organisms, and special kits. **For Fall 2015 semester, order sheets are due on Tuesday, August 10th by 5 PM.**
 - a. You need not complete an order form for general supplies, common chemicals, and glassware. Examples of such items are ethanol, test tubes, and alcohol swabs. If you require a particular size of an item or a specific vendor, you may choose to complete an order form or check with the Biology Laboratory Manager. For example, if you need 500 mL of anhydrous ethanol from Sigma-Aldrich, this is something we may not have in stock.
 - b. An order form should be completed for all kits, such as those from Bio-Rad or Edvotek. For kits, check to see if a refill kit is available. If there are separate frozen components that will ship separately, please make a note of it on the order form.
 - c. An order form should be completed for all molecular biology reagents, such as primers or enzymes. Include the specific vendor, catalog number, and quantity.

- d. An order form should be completed for live organisms, including the date needed. Please note that live organisms cannot arrive on Mondays or Tuesdays, and plan your dates accordingly.
- e. For all supplies needed from the grocery store, such as spinach or potatoes, a single order sheet should be completed for these items. The name of the store is not needed; simply write "Groceries" in the "Vendor" box. If multiple items are included and they are needed on different dates, please write the date needed in the "Description" box for each item.
- f. For any concerns about ordering, feel free to set up a meeting with the lab manager.

III. The Laboratory Session: Before, During, and After Class

A. Biology Laboratory Manager and student worker responsibilities:

1. The lab manager will assign a student worker to each course. The student worker will prepare any chemical reagents and collect required supplies before the class begins. All materials will be left on a cart in the laboratory classroom, with the exception of certain instruments that may be placed on a lab bench. Each week the student worker should coordinate with the instructor regarding reagents, supplies, and equipment.
2. The student worker will put away any supplies and gathered equipment that he or she set out before the class. This does not include microscopes.
3. The student worker will remove all waste reservoir containers from the laboratory following the lab period. However, all test tubes and other containers of waste generated by the students should be collected during the lab period into the appropriate reservoir container so it can be quickly removed from the lab following the class.

B. Instructor responsibilities:

1. You should always know how to handle all chemicals or potentially hazardous materials used during each lab period. Before students enter the lab, ensure that all necessary PPE is in place and ready for use. Know where extra PPE is located in case you run out during the lab period.
2. You are responsible for making sure that each student is properly attired upon entry into the lab. Students who are not wearing the proper attire should be asked to leave the laboratory.
3. Each student should be assigned a microscope during the first lab with microscope use. The instructor should keep a record of which microscope is assigned to which student.
 - a. You should make sure the students clean off their microscope at the end of the lab period if immersion oil is used.
 - b. If prepared microscope slides are needed, the instructor should obtain the necessary case(s) from the slide cabinet in 355 prior to the lab session. All cases should be returned to the slide cabinet when done. If another section used them during the lab before your section, they may still be in the lab. If one or more lab section will be using them after you, they may be left in the laboratory.

- c. Students should return microscopes to the microscope cabinet in the proper order.
4. You should make sure the students dispose of all their wastes in the appropriate containers throughout the lab period. Open containers or tubes containing chemicals should not be left out on benches at the end of the lab period.
5. You should move all collected supplies and equipment back onto the cart at the end of the lab period. All benches should be left clear and clean for the next class. Chairs should be pushed in and not left in the middle of the aisles, as this can block entry by incoming students.
6. Lab practicals should only be left on the bench if another lab section will be using the same set-up after your section. The last section to use a lab practical should dismantle it and return all supplies when they are done, leaving the benches open for the next class.
7. Make sure the doors to the labs are locked at all times when no one is in the lab. We have had a variety of thefts throughout the labs in the last couple of years. Also, students can disturb previously set-up experiments if the lab doors are left open.
8. Students are not allowed to be in the labs unless a faculty member or lab instructor is present.

C. Student responsibilities:

1. A student must pull out his or her own microscope from the cabinet during the lab period. Prior to returning the microscope to the cabinet, each should clean the microscope at the end of use if immersion oil was used.
2. Each student should dispose of his or her waste in the appropriate container during the lab period.
3. Each student should clean the bench at their workspace and push in their chair when done at the end of the lab period.