

## TEACHING ASSISTANT RESPONSIBILITIES

### 1. PREP ROOM ORDERS

- a. TA's are responsible for ordering solutions, media, chemicals, etc. for their respective classroom needs. Prep room orders are to be written in a clear and self-explanatory manner using the order form provided. Please do not use abbreviations – write the whole word out. [e.g., write out Mannitol Salt Agar, not MSA]. If any special instructions are necessary consult with the prep room supervisor.
- b. **Prep room orders must be submitted to the prep room by Noon on Monday of the week PRIOR to use.** Consult with the Laboratory Materials Supervisor (Mary Ann Stoll) in the prep room periodically to insure that the order will be ready when needed. If the prep room is shorthanded, you may have to prepare your own order.
- c. Your lab preparation will be delivered to your lab the day of the first lab section. It can usually be picked up earlier in the prep room, if needed.
- d. Please use discretion when ordering quantities of chemical solutions and media (disposal costs are excessive and media costs are becoming astronomical). If you will be using any chemicals, please anticipate the volume you will need and request the proper size container, with secondary containment, on your laboratory prep. Also indicate on the prep the date and time of the last section of the lab and the instructor's name. You should also request a MSDS sheet for each EPA or RCRA controlled substance in use.
- e. **Controlled Substances** -- All narcotic orders must go through a faculty member. Written requests should be given to the Laboratory Materials Manager at least one week before the narcotic is needed. Narcotics cannot be released to the laboratory until they have been recorded.
- f. Each TA will be issued a lab coat at the beginning of the year. It should be worn during each lab. If necessary, return it to the prep room supervisor for a replacement. Check it in at the end of the year or you will be charged for it.

### 2. SAFETY

- a. All teaching laboratories contain a three-ring binder which should contain all MSDS (Material Safety Data Sheets) sheets for that particular room. TA's are responsible for checking their own respective MSDS notebooks to assure that all MSDS sheets are available for each laboratory. If any are needed they should be added to the Prep room Request order.
- b. **BROKEN GLASS** - Broken glass containers are provided in each laboratory where necessary. Do not throw garbage in these boxes. Notify the Laboratory Materials Supervisor when they need to be replaced. Do not overfill these containers.
- c. You are required to check out a cell phone for all class field trips.
- d. It is most important to use secondary containment for any chemicals or other hazards in the laboratories, and especially when transporting them.

### 3. MICROSCOPES

- a. Microscopes for most laboratories will be assigned by number at the beginning of each semester. Microscope care handouts will be distributed to each student; request them on the Prep room Order Form. Microscope covers should be left in the cupboard or on the cart

and microscopes should not be on the counter while students are staining slides. To insure that stain does not get on the microscope, students should wash their hands before using the microscope and before returning scopes to storage area. TA's will deduct lab points if students leave oil on objectives or oily slides on the stage.

- b. Do not remove microscopes from any teaching laboratory under any circumstance. Make sure microscopes are put away in their proper numbered space at the end of each lab.
- c. There are some compound and dissecting microscopes available from the Laboratory Materials Manager on a first come, first serve basis. Dissection microscopes can be checked out from the Laboratory Materials Manager on a weekly basis. Please see that students do not place wet specimens directly on the illuminated stage. Have students clean the stage (damp Kimwipes work well) and oculars (use only lens paper here). It is very important to rack the body all the way down and wrap the cord loosely around the base. Check the numbers you have been assigned and return to Room 140.

#### 4. CLEANUP

- a. Each TA will see that the laboratory is neat and clean at the end of their specific lab period, so that it will be ready for the lab that follows. At the end of the last laboratory of the week, the responsible TA should gather ALL materials, glassware, tools, instruments, etc. and return them to the prep room.
- b. DIRTY GLASSWARE - You are responsible for supervising the collection of dirty and contaminated glassware. Pans will be provided for all labs. Slide buckets for non-stained, non-hazardous slides will be provided if requested. **TA's are responsible for seeing that all markings are removed from glassware.** There are white nylon scouring pads in each lab so that students can remove grease pencil markings from the glassware as it is discarded. It is to your advantage to use the grease pencils instead of the felt tip pens.
- c. When any glassware is contaminated with bacteria, blood, human or animal tissue, place the appropriate signs on the container. All used needles are to be disposed of in the sharps containers provided. Do not leave syringes lying about in the labs. **Never dispose of any of these items in the garbage.** Bring them to the prep room. The custodial staff will not empty any wastebaskets that contain any blood, needles, sharps or biological specimens.
- d. ANIMAL WASTE – Place all animal waste in plastic bags labeled 'ANIMAL WASTE FROM BIOS \_\_\_\_.' Take the bags to the freezer on first floor (the freezer is accessible by using the stairs or freight elevator at the south end of the building). Do not allow discarded animal specimens to accumulate in teaching laboratories. Bags are available from the prep room and should be requested on the Prep room Order form.
- e. All used chemicals generated in the teaching laboratories on the second floor, should be taken to Room 260 (inside Room 261) by the laboratory instructor AT THE END OF THE LAST LABORATORY OF THE WEEK. These used chemicals should be placed on the Rubbermaid cart. You must identify your used chemicals, especially amount and/or concentration. This information MUST be recorded on the used chemical label and a copy of this label returned to the prep room supervisor after the last laboratory section. Do not, under any circumstances, pour any chemicals down the drain, or dispose of in any other way. Do not mix any used chemicals, keep each in a separate container.
- f. At the end of each semester, the TA's are responsible for cleaning up teaching laboratories. This includes emptying incubators and student drawers returning equipment and unused items to the prep room.

## 5. TA/STUDENT RELATIONSHIPS

As a Teaching Assistant you are responsible for supervising and evaluating students in your laboratory sections. The ISU Faculty/Staff Handbook states:

“While the private behavior of faculty is usually not of concern to the University, faculty interaction with students is. Faculty are expected not to participate in evaluation or supervision of students with whom they have or develop an amorous or familial relationship. Such participation constitutes unprofessional conduct. These relationships may include, but are not limited to: membership in the same household, close familial relationships, or dating or sexual relationships.”

ISU Faculty/Staff Handbook, Part 4, Section I, R.

This policy, which is in place to protect both the teacher and the student, also applies to Teaching Assistants. As long as you are a TA, you should not date any student who is in a laboratory that you are teaching.

## 6. CONFIDENTIALITY

The U.S. Family Education Rights and Privacy Act of 1974 (FERPA) restricts the type of information about students that can be made public. This includes things such as a person's social security number, grades, and student number. Do not include any of that information on **anything** you distribute, or pass around, in a class. For example, if you pass around a class list to take attendance, you **must** make sure that it does not include student numbers. Unless a student has requested a complete block on their records (see next paragraph), it is not a violation of FERPA to pass around a class list with student names on it.

Some students have put partial or full blocks on their records, which means that some or all information about the student is to be kept confidential (this can include their name). This means that before you make public any list of students, you **must** determine if any of those students have requested such a block. You can do this by going to Faculty/Staff Tools on the ISU web page and requesting a class list with student addresses or pictures. That list will indicate if there are blocks on any information for any students.

**It is extremely important that you comply with FERPA!** If you have any questions about what information must be kept confidential, contact the office of Registration and Records (X2661) or refer to the FERPA Facts web site at <http://www.isu.edu/departments/areg/ferpafacts.shtml>. Non-compliance with FERPA can be grounds for revoking a Teaching Assistantship.

## MICROBIOLOGY TEACHING ASSISTANTS

1. A set of stock culture collection will be provided to each Microbiology TA, who will be responsible for maintaining the cultures for one year. A new set will be issued at the beginning of each year. You are also responsible for growing up the appropriate culture for each laboratory exercise.
2. It is your responsibility to keep distilled water in the shaking water baths in room 138.
3. To expedite the washing of glassware for the Microbiology labs, contaminated tubed media will be placed in the test tube racks in tubs in the marked contaminated collection area. The prep room provides the tubs. Tubes must be placed **upright** and **all labels must be removed and/or cleaned off**. If the collection tubs are full, please notify the prep room and request additional racks and pans from them.  
**Make sure that labels are removed from glassware** before it is placed in the contamination collection area...
4. Slides [and B411. test tubes] need to be put into the tub marked Contaminated Glassware -- Disposable.
5. Put used plastic petri dishes in the plastic lined biohazard buckets in the contaminated collection area. Contaminated paper towels, gloves, and tissue can also be placed in these buckets. DO NOT place anything in the buckets that could puncture the plastic liner.
6. Sharps containers are for all SHARP ITEMS [i.e. syringes, scalpels, etc.], NOT gloves, paper, etc. Broken glass containers are only for **non-contaminated broken glass**. Contaminated broken glass should be put in a beaker and then placed in the contaminants tub or put into the container mentioned in #3 above. Notify prep room personnel [a note will work] if you leave broken, contaminated glassware.
7. Put micropipette tips in beakers, which are then put into the contaminants tub.
8. Do not move equipment between labs unless it is absolutely necessary. If it becomes necessary, you **must** leave a note stating where the equipment has been moved to, date & sign your name.
9. **DO NOT**, under any circumstances, remove **ANY** compound microscopes from any of the rooms to which they are assigned. If you need any additional microscopes, please order them using the microscope order form available from the prep room or in the holder outside of room 118 and deposit completed form in the holder outside room 118. .
10. If you have any problems with microscopes, please fill out a repair slip -- bottom half of the order form discussed in #9 above. This really helps us stay on top of problem microscopes.
11. Wipe down all counters before and after each lab with disinfectant [a solution of CiDecon disinfectant provided by the prep room]. Please note the expiration date on the disinfectant and if it is expired notify the laboratory materials supervisor immediately.
12. Do not ever leave a laboratory unlocked and unattended.
13. When you lock up the lab at the end of a session be sure all of the Bunsen burners are off, all faucets and any other equipment.

## BIOLOGICAL SCIENCES PREP ROOM POLICY

1. **AUTHORIZED USE**--To minimize congestion in the prep room, the following is a list of persons authorized to use the facilities:
  - a) Department of Biological Sciences Faculty & Staff
  - b) Authorized teaching assistants and departmental graduate students. Please obtain authorization for use during regular business hours from the Lab Materials Supervisor [Mary Ann Stoll]. This area is primarily available for teaching lab preparation.
  - c) Authorized undergraduate students in special topics provided they obtain permission from the Laboratory Materials Supervisor [Mary Ann Stoll] first. Undergraduate use is limited to the regular hours of the prep area which is M-F 7:30 a.m. – 4:30 p.m.

**\*\*ALL OTHERS ARE STRICTLY PROHIBITED FOR REASONS OF SAFETY\*\***

2. If the prep room is left unattended during regular hours [7:30 a.m. – 4:30 p.m.] the chemical room door will be closed and locked. It is the responsibility of persons using the prep room or other laboratory facilities after regular hours to insure that all doors are closed and locked after use. Remember that the prep room is protected by a motion detector that must be deactivated when you enter room 193 and reactivated when you leave. If you must leave and plan to return, you must lock up first, no exceptions. Your prep room privileges will be terminated for violating this requirement.
3. All persons using the prep room facilities, including the storerooms will assume the responsibility of cleaning up after themselves. Leaving dirty measuring vessels, containers and workspace will not be tolerated. These items should be washed, rinsed in distilled water and placed on the pegboards or glass drying racks. Broken glassware or equipment is to be reported to the laboratory materials supervisor and recorded on the glassware breakage sheet.
4. **DO NOT HELP YOURSELF TO SUPPLIES IN THE PREP ROOM OR STOREROOMS.** If no one seems to be present, please leave a note for the lab materials supervisor or email message and someone will try to accommodate you as soon as possible.
5. **CHECKOUT LISTS**—Under some circumstances materials or equipment may be loaned. Persons removing equipment, tools, reagents or specialized glassware, Millipore filter units, hot plates, stirrers, etc., must sign these items OUT & IN in the appropriate notebook. Bottle(s) from the chemical storeroom are not to be removed from the area. Balances, microscopes, stop watches, timers, blenders, pH meters, water baths, & pipettors have additional check out procedures.
6. **STORAGE OF SOLUTIONS**--Erlenmeyer and volumetric flasks and graduate cylinders are not to be used for storage of solutions (except media).
7. **LABELING** –All bottles, beakers, flasks, etc. **must** be labeled properly including what they contain [even water].
8. **PREP ROOM GLASSWARE**--All general use glassware items (pipettes, flasks, tubes, beakers, etc. are not to be allowed to accumulate in research laboratories. These items are to be returned to the prep room, cleaned and put away. Students may use the dish washing machine in the prep room for their glassware but need to obtain permission from the lab materials supervisor first. If the glassware belongs to a professor's research lab then the student needs to have enough time to stay during the whole washing process and then remove

the glassware and return it to the research lab. The prep room is not responsible for cleaning research glassware, except pipettes. For proper method of cleaning glassware please refer to the separate handout titled *Washing Dishes*.

9. **CARE OF PREP ROOM EQUIPMENT**--All non-hazardous spills should be wiped up with a damp sponge. If any spills are of a hazardous nature, please report the spill to the lab materials supervisor before attempting to clean it up yourself. Report any malfunctioning equipment to the supervisor immediately. Always zero out the electronic balances when finished weighing. Clean the weighing spatulas and **always** leave the balance pans, the top of the balance and the table clean. Use of the autoclave is covered in a separate handout titled *Autoclave Operation*. When autoclaving – boil over can occur so it is recommended that you use secondary containment. If a boil over does occur then it is your responsibility to clean the autoclave. The autoclave should always be vented after use.
10. **CHEMICAL INFORMATION**--Follow all instructions on chemical bottles when using them. All acids, bases and flammables must be dispensed in the hood. You must use secondary containment. There is a set of MSDS (Material Safety Data Sheets) in a file cabinet located in the prep room. Any chemical labeled with a diagonal yellow and black tape should be reviewed in the “POCKET GUIDE TO HAZARDOUS CHEMICALS” located in the chemical room (Room 191).
11. **CONTROLLED SUBSTANCES**--All narcotic orders are to go through a faculty member. Written requests should be given to the Lab Materials Supervisor. Please give at least one week notice on all orders. **ALL** prep room requests must be turned in on **Monday by 12:00 p.m. prior to the week they are needed.** Narcotics can not be released to the laboratory until they have been recorded.
12. **HAZARDOUS WASTE**--All hazardous waste from research will be labeled and placed in the satellite accumulation area in the Professor’s research lab. Be sure to fill out all paper work required by the Technical Safety Office. Contact the Lab Materials Supervisor [Mary Ann Stoll] if you have questions. Do not bring this waste to the prep area.
13. **SECURITY** - Prep room access will be limited. The prep room will be inaccessible from **10:00 P.M. until 7:00 A.M.**, so you must plan accordingly.
14. **QUESTIONS**--Please ask the lab materials supervisor. Mary Ann Stoll, [stolmary@isu.edu](mailto:stolmary@isu.edu), 282-4418, Life Science bldg. 65 room 192.

## GENERAL USE AND CARE OF MICROSCOPES

Microscopes are to be lifted by the arm and carried with two hands. Remove the plastic cover, fold and place the cover on upper lab shelf or in the cart. Using the coarse adjustment rack (turn) the tube up to the top. Put slide on the stage and turn nose piece to low objective. Never begin viewing with any objective but the low power. Using coarse adjustment, turn clockwise (down) until you can see a blurred image of your field. Use fine focus adjustment to obtain a clear field. If you wish larger magnification, turn revolving nose piece to higher power and use fine focus to readjust. If you will be using the oil immersion lens place no more than one drop of immersion oil on the slide and turn to the oil immersion objective. There should be some contact of oil between the slide and the objective.

You may have to adjust the amount of light being transmitted through the condenser. In general, it is preferable to have the substage condenser racked up as far as it will go, particularly when viewing through the oil immersion lenses. The amount of light entering the objective can be regulated by the use of the iris diaphragm located below the stage. Use just enough light to fully illuminate the objective being viewed, but the light should not be too brilliant. You will need to open the diaphragm more when using the oil immersion lens than when using low power. If you are using one of the Zeiss binocular microscopes, the condenser lens is fixed, and is not adjustable. Also, the Leitz microscopes have a substage second condenser lens which should be turned away from the illumination path when viewing under low power, but turned into position for oil immersion work.

When you are finished using the microscope, turn off the substage lamp so that it will cool. Wipe the eyepieces and each of the objectives using lens paper. Never wipe any other objective with a piece of lens paper containing oil. All oil on the objective must be removed. Leave the low power objective in place and rack the scope all the way down.

Unplug the light cord, wrap it loosely around the microscope. The mechanical stage must be centered before the scope is covered. Never use Xylene on the slide when it is on the stage. Replace scope cover only if light source is cool enough to prevent melting of the cover.

Return covered scope and lens paper to cabinet or cart.

Dissecting microscopes should be treated with the same care as compound microscopes. Do not place preserved or wet objects directly on the stage. Use a petri dish, glass plate or watch glass, which are available from the stockroom.

## **Proper Storage of Scopes**

### **Compound Light Microscopes**

1. Turn down rheostat and turn off substage lamp.
2. Rack down stage (if objectives or nosepiece move, the nosepiece should be racked up).
3. Remove slide and clean off the stage.
4. Center the stage mechanism.
5. Set the nosepiece for the lowest objective to be down (i.e. 4X should be in place). Wipe off all the objective lenses and the oculars with lens paper.
6. Oculars should be over the arm of the microscope, if you turn the ocular or head away from the arm, turn the head back.
7. Unplug, loop cord and hang cord off the oculars.

### **Stereoscopes or Dissecting Scopes**

1. Turn off substage and overhead lamp.
2. Remove specimen from stage and wipe clean.
3. Rack the objectives all the way down.
4. Turn head to be over the arm.
5. If necessary, wipe off oculars with lens paper.
6. Unplug cord.
7. If there is a cord wrap on the arm, use it to wrap up the cord. If not, loop cord and hang on oculars.

**Either type of microscope should be compact and easy to carry with both hands.**