

# MICROBIOLOGY LABORATORY BIOL 310L

LAB: Medical University of South Carolina School of Pharmacy Bldg Room 402

Laboratory Instructors: Ms. Tracy Hirsch (Sections 1, 2, 3, 5, 6)

Dr. Susan Morrison (Section 4)

1. You are **REQUIRED to PROVIDE** the following items for use in lab:
  - Black marking pen with waterproof ink, e.g. a "**Sharpie**" (wide tip and/or narrow tip)
  - Three-ring binder to hold supplemental laboratory materials and coursepack pages
  - a bound composition book (Ms. Hirsch only)
  - Safety goggles (for use when doing designated procedures)
  - **Laboratory Coat** (required by the School of Sciences & Math). It will protect your clothing from accidental contamination which, if it occurs, will require that your clothing be decontaminated) and prevent the transport of microorganisms out of the lab on your clothing. It will also protect your clothing against the stains, disinfectants and reagents used in lab.
  - **Disposable laboratory gloves** (non-latex)

You may also want/need to bring:

- an inexpensive, flexible, six-inch ruler with metric scale
- a 3-gallon plastic zipper bag to hold your lab coat if the one-gallon size isn't big enough
- plastic zipper sandwich or storage bags to protect your laptop, i-pad or cell phone from contamination if you use it to record results. [Of course, it will be put away and not used for anything except for lab procedures.]

2. The COURSE PACK contains supplemental materials for laboratory as well as for lecture and is **required**.

The LABORATORY MANUAL is a Pearson Custom Manual derived from *Microbiology: A Laboratory Manual* 9<sup>th</sup> edition by J. G. Cappuccino and Natalie Sherman, 2010. ISBN 978-1-256-59627-1.

- Please write your name in ink on the outer edge and inside the front cover.
- Hint: Use a highlighter to mark the section headings in the Table of Contents (e.g. Basic Lab Techniques....., Microscopy, Bacterial Staining)

Used lab books are **not** acceptable, unless the results and questions sections are mark-free.

Students repeating the course should see their lab instructor for the procedure to follow.

The lab coursepack & supplemental materials should be placed in an inexpensive, three-ring notebook for this lab class to keep them all together.

Your lab manual and notebook should be completed as you do the work in class and should be written so that it can serve as a future reference for you.

Keep your lab book UP-TO-DATE. Place the results directly into the manual as you do the work and answer the questions as you go along.

Lab books will be examined in class at unannounced times and/or at the end of the semester. Its grade will be based on pop spot-checks and possibly on a timed, pre-announced open book quiz given during lecture or lab. Your success on the lab tests and on this quiz will correspond with the accuracy, completeness, scientific understanding, organization and presentation of your results, and the responses to questions.

In addition to the questions for exercises which you do, you are also responsible for questions in exercises listed as "reading only," for the questions and results for exercises done as demonstrations, and for exercises from handouts as well as from the lab book.

3. Read and understand the laboratory exercises in your manual and/or your coursepack before coming to lab.
4. Three DRAWERS will be provided at each lab station. One will be used as the "room temperature incubator." One will have the shared equipment (e.g. lens paper, bibulous paper, inoculating loop, inoculating needle, staining bowl & u-rod, wax pencil). The third drawer will be used to store individual items, e.g. each person will have a separate slide box. You can also put in an envelope with such items as a marker or gloves or goggles. The drawers will not be locked.

Instructions about lab coats will be provided.

5. ATTENDANCE in laboratory is required and roll will be taken. Laboratories are scheduled for three (3) hours. You will attend the assigned lab section and use the same lab station and microscope throughout the semester.

**In addition to the regularly scheduled lab periods, it will be necessary for you to come in a few other times to read experimental results or continue exercises. Plan accordingly.** See the lab schedule for more information on which experiments require follow-up and at what interval. In addition, you may wish to repeat stains or microscopy of your unknown culture. For reasons of safety, working in the lab in the evenings or on weekends will be restricted to specified times, which will be announced and require the presence of an instructor. You should not work in the lab alone, even during the day. The building is locked after 6:00 pm.

If you come into the lab to do follow-up when another section is in progress, you should avoid disrupting the class. Specific bench stations will be designated to use at these times.

All students are expected to attend lab at their assigned lab time. There is limited space for additional students in most lab sections. If you cannot attend at your scheduled time, you must get permission in advance for each time you need to come at a different time.

6. Each student will be expected, 3-4 times during the semester, as scheduled, to assist with laboratory clean-up in addition to routine duties or experimental work. (In effect, you are washing your own glassware just as you do in Chemistry lab, except that everything must be sterilized before it can be washed.)

Each person is also expected to keep his/her work area clean and organized and aid in maintaining the rest of the lab. Please push your lab stool under the bench when it is not in use.

Students may also volunteer to help with preparation of media and other materials for lab.

7. Information on LAB SAFETY is provided in several forms: a section in the coursepack, the safety rules of the School of Sciences & Math, and notes in your lab manual. Each student is required to become thoroughly familiar with this information, to use safe practices and common sense in lab at all times, and to accept responsibility for personal safety and the well-being of everyone in lab. All students are required to sign a statement agreeing to comply with all safety rules before they may participate in laboratory. A pop quiz covering safety may be given at any time.

We will follow the safety guidelines of the School of Sciences & Math (SSM). However, there may be situations when we deviate because the rules were written for a chemistry lab and may not be appropriate for a Microbiology lab. For example, SSM says you must wear long sleeves but does not state that they must be tight around the wrist. However, unless you are using caustic chemicals, long sleeves pose a hazard around open flames and cultures. In addition, it is not possible to properly wash your hands and lower arms to rid them of microbes when wearing long sleeves.

8. The LABORATORY GRADE will comprise approximately 24.5% of the grade for the entire course. It, in turn, will be determined as follows:

Midterm; Final--closed book (28% + 30%)	58.0%	of lab grade
Lab Manual/Notebook	5.0 %	“ “ “
Unknown Culture Identification and Report	17.0%	“ “ “
		<i>(8.5% for the identification; a separate 8.5% for the report)</i>
Skills Tests (Aseptic Technique, Streak Plate)	7.5%	of lab grade
Pathogen Poster (group project)	7.5%	“ “ “
Attendance, Participation, Safety, Care of equipment	5.0%	