

# MICROBIOLOGY LABORATORY BIOL 310L

LAB: Medical University of South Carolina School of Pharmacy Bldg, 280 Calhoun St, Room 402

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

Dr. Susan Morrison (Section 1 & 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**, purchased at SAS-E-Ink contains supplemental materials for laboratory as well as for lecture and is **required**.

The **LABORATORY MANUAL** is *Microbiology Laboratory Theory & Application 3<sup>rd</sup> edition BRIEF* by Michael Leboffe & Burton Pierce. 2016. ISBN-13: 978-1-61731-477-3.

- Please **write your name in ink on the outer edge and inside the front cover**.

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 portion of the coursepack & additional handouts (if given) should be placed in an inexpensive, three-ring notebook for this lab class to keep them all together.

Your lab results 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 (not on loose scraps of paper) as you do the work and answer the questions as you go along.

Lab results & questions will be examined in class at unannounced times and/or at the end of the semester.

The 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 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 coursepack & manual. Additional questions may also be provided by your instructor.

3. Read and understand the laboratory exercises in your manual and/or your coursepack **before** coming to lab. Plan your time in advance. Keep in mind that you don't need to do exercises in the order listed. You might also overlap tasks, e.g. prepare smears and let them air dry while you move on to another procedure.
4. Most lab stations have three DRAWERS for use that will be shared by students in all six sections. Shared equipment & supplies should include lens paper, bibulous paper, inoculating loop, inoculating needle, staining bowl & u-rod, wax pencil. There should also be six slide boxes, one per person; you should write your name (in permanent ink) on a piece of time-tape and stick it on the cover of your dedicated box so you can save your slides. If you want you can also put in an envelope with such items as a marker or gloves or goggles, keeping in mind that the drawers will not be locked.

Lab coats may be left in 1-gallon plastic zip-lock bags with your name in a designated space, or you can take your lab coat with you in the bag.

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.

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

Almost none of the experiments can be completed in one lab period since cultures must be incubated.

While we are in the temporary location at MUSC, **all procedures that require follow-up in 24 to 48 hours** in order to yield accurate results **are scheduled for one week. Therefore it will be necessary for you to come in to read those experimental results. See the course schedule for that specific week & mark it on your calendar. Plan accordingly.** We can manage the other weeks so you don't need to come in after 24-48 hours. For reasons of safety and building access, working in the lab in the evenings or on weekends is restricted. You should not work in the lab alone, even during the day.

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.

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.

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

- 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 the Leboffe & Pierce 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.

- 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%	