

Microbiology Laboratory Schedule

Laboratory Instructors: Dr. Heather Fullerton
Ms. Tracy Hirsch

Required books and Laboratory Materials

1. Laboratory Manual: Leboffe & Pierce, Microbiology Laboratory Theory & Application, Brief, 3rd edition
2. Textbook: Brock Biology of Microorganisms, 15th edition
3. Bound Lab Notebook (No spiral notebooks)
4. Sharpie Marker (Preferably black)
5. Safety Glasses
6. Lab Coat

To participate in laboratory exercises, you must have your lab coat and safety glasses. You must also wear long pants and closed toe shoes while in the microbiology lab.

Items listed as *exercise* are in the Laboratory Manual. You will also be required to read specific pages from the manual and from the textbook as indicated below. Lab handouts will be posted to oaks.

All lab sections meet in MUSC Pharmacy Quad Building 402 Tentative Weekly Lab Schedule

Week 1 (Jan 9-11)

No Labs

Week 2 (Jan 16-18)

Safety Overview	Read Introduction (Pages 1-8)
Aseptic Techniques	Exercise 1-4
Ubiquity of Microorganisms	Exercise 2-1
Microscope Introduction	Read Brock sections 1.5-1.6 Exercise 3-1

Week 3 (Jan 23-25)

Streak Plate Method	Exercise 1-5
Standard Plate Count	Read exercise 1-6 Exercise 6-2
Colony Morphology	Exercise 2-2 (Describe colonies from exercise 2-1)
Bacterial Structure & Simple Stains	Read page 173-176 Exercise 3-4
Nutrient Broth & Agar Prep	Read exercise 1-3 Review Manual's Appendix E from Read Brock sections 3.1 Read Brock section 5.5

Week 4 (Jan 30-Feb 1)

Gram Stain	Exercise 3-6
Endospore Stain	Exercise 3-9
Bacterial Motility: Wet mount & Hanging Drop Preparations	Exercise 3-10
Bacterial Motility: Flagella	Exercise 3-11
Motility Agar	Exercise 5-24
Microbial Locomotion	Read Brock sections 2.11-2.12
Isolation of Antibiotic producing organisms	Handout

Week 5 (Feb 6-8)

Antibiotic producing organisms continued	
Fluid Thioglycollate Broth	Read Manual Page 95 (Aerotolerance) Exercise 2-6
Anaerobic Jar	Exercise 2-7
Growth Curve Dry Lab	Read Exercises 2-8, 2-9
Population Growth	Read Brock sections 5.2-5.3
Unknown Gram Stain & Streak plate	Refer to exercises 9-1, 9-2, 9-3

Week 6 (Feb 13-15)

Epidemic Simulation	Exercise 7-4
Effect of Ultraviolet Radiation on Microbial Growth	Exercise 2-12
Ultraviolet Radiation Damage and Repair	Exercise 8-3
Examine Unknown Plate(s)	Refer to exercises 9-1, 9-2, 9-3

Week 7 (Feb 20 - 22)

Antimicrobial Susceptibility Test	Exercise 7-2 Read Brock sections 28.10, 28.12
Antiseptics & Disinfectants	Handout
Bacitracin, & Novobiocin susceptibility Test	Exercise 5-20

Week 8 (Feb 27 - Mar 1)

Lab Midterm

Week 9 (Mar 6 - Mar 8)

Selective & Differential Media	Read Manual pg 227-229
Differential Tests	Read Manual pg 267-270
Mannitol Salts Agar, MacConkey Agar	Exercise 4-3, 4-4
Eosin Methylene Blue Agar	Exercise 4-5
Hektoen Enteric Agar	Exercise 4-6
Columbia CNA with 5% Sheep Blood Agar	Exercise 4-2
Blood Agar	Exercise 5-21
Catalase Test	Exercise 5-4
Coagulase and Clumping Factor Tests	Exercise 5-23

Week 10 (Mar 13 - 15)

Phenol Red Fermentation Broths Glucose & Lactose	Exercise 5-2
Methyl Red & Voges-Proskauer Tests	Exercise 5-3
Oxidase Test	Exercise 5-5
Citrate Test	Exercise 5-7
Starch Hydrolysis, Casein Hydrolysis	Exercise 5-10, 5-13
Urea Hydrolysis	Exercise 5-15
Triple Sugar Iron	Exercise 5-19
Swarming Test	Handout

Week 11 (Mar 20 - 22)**Spring Break – No Labs****Week 12 (Mar 27 - 29)**

Snyder Test	Exercise 7-1
Lactic Acid Bacteria	Handout
Isolation of Bioluminescent bacteria	Handout
Unknowns	Refer to exercises 9-1, 9-2, 9-3
Sign up for food item in lab	
Membrane Filter Technique	Exercise 7-5

Week 13 (Apr 3 - 5)**Unknown Report Due**

Isolation of Spore forming Bacteria	Handout
Food Microbiology	Handout Read Brock 32.6-32.10

Week 14 (Apr 10 - 12)

Food Microbiology Continued	Handout
api 20 E Identification System	Exercise 9-4

Week 15 (Apr 17 - 19)**Lab Final**