

BIO 211L (formerly Bio 210) Fall 2009 LABORATORY SCHEDULE (Tentative)

Prepared by Marlene DeMers

You are required to read the Assigned Readings listed below in your lab manual and textbook, before coming to each class. Laboratory Manuals (required): *Fundamentals of Microbiology*, 7th edition revised, DeMers *A photographic Atlas for the Microbiology Laboratory*; 3rd edition; Leboffe & Pierce
Lecture Text (required): Tortora, et al; *Microbiology An Introduction*, Ninth Edition
Please note exercise numbers and Appendices refer to the Laboratory Manual by DeMers. Use the Atlas by Leboffe to find references to the lab exercises. Use the Tortora index (and other textbooks) to find references to the lab exercises.

Bio 211L LAB SECTION MEETING TIMES [all labs meet in NLS 416] {Last day to add or drop is Monday, September 14, before 6 PM}

Bio 211 LECTURE (20421) (GMCS 333)	Friday 1100 - 1250
SECTION 1 (20422)	MW 0900 - 1140
SECTION 2 (20423)	MW 1200 - 1440
SECTION 3 (20424)	MW 1500 - 1740
SECTION 4 (20425)	MW 1800 - 2040
SECTION 5 (20426)	TTH 0800 - 1040
SECTION 6 (20427)	TTH 1100 - 1340
SECTION 7 (20428)	TTH 1400 - 1640
SECTION 8 (20429)	TTH 1700 - 1940

Note: Due to the current CSU Budget Crisis, Faculty and Staff must take two Furlough days off per month without pay. The Prep Room will be closed on the Furlough dates that are listed below.

TENTATIVE

READINGS:

LAB # DATE

EXERCISE

Lab Manual

LAB #	DATE	EXERCISE	Lab Manual
1	8/31 Mon 9/1 Tues	First Day of classes: Labs begin: Crash Lists, Introduction, Laboratory description, Overview of course (Includes Microbiology oral topics discussion); Necessary supplies, Lab Safety. Video: "Unseen life on Earth" (The Microbial Universe) Review of calculations	Handouts Safety DVD &; vi-ix Video Handout
2	9/2, 3 W, Th	Check in (keys, lockers & drawers) for enrolled students and crashers with add codes Enrollment continued, add codes, etc. Digital Video: Lab Safety continued 1: Brightfield microscopy (prepared slides) Troubleshooting the microscope, con't. Digital Video (lab manual): Using the Microscope 2: Other Microscopes; (darkfield, phase) 3: Observing Protozoa, Hay Infusion, Cyanobacteria	DVD & Safety; vi-ix Ex. 1 Microscope DVD DVD Ex. 2 Ex. 3
3	9/7, 8 M, T	Labor Day Laboratory closed Monday & Tuesday September 8 Furlough day - Preproom closed	
4	9/9, 10 W, Th	1, con't: Brightfield microscopy, con't. 2: Other Microscopes, con't. (stereo) 4: Observing Fungi and Yeast 5: Observing Bacteria; Gallery of microorganisms; cell shape & arrangement	Ex. 1, con't. Ex. 2, con't. Ex. 4 Ex. 5
5	9/14, 15 M, T	4, con't.: Fungi con't. 5: Observing Bacteria; Gallery continued 6: Aseptic Technique (inoculations) Introduction to Case Histories (practice with #1) Note: Mon, Sept 14 is last day to drop classes & Wed, Sept 16 is last day to add classes Both before 6:00 PM	Ex. 4, con't Ex. 5, con't. Ex. 6 (DVD) Appendix N

**TENTATIVE
LAB # DATE**

EXERCISE

**SUGGESTED READINGS:
Lab Manual Atlas**

6	9/16, 17 W, Th	6: Aseptic Technique (smears from inoculations) 7: Smear preparation 8: Simple staining 11: Culture media preparation Case History # 6 Due	Ex. 6, con't. Ex. 7 (DVD) Ex. 8 (DVD) Ex. 11, Appendix L Web site
7	9/21, 22 M, T	QUIZ # 1 (Exercises; 1,2,3,4,5,6,7,8) 7: Smear preparation, continued 8: Simple staining, continued 9: The Gram Stain (start) Appendix B: Troubleshooting the Gram Stain 11, con't: Culture media preparation con't	Ex. 7, con't. Ex. 8, con't Ex. 9 Appendix B Ex. 11, con't
8	9/23, 24 W, Th Fri, 9/25 Furlough Preproom Closed	9, con't: Gram staining, con't. 10: Miscellaneous staining: Acid-Fast staining, Capsule 12: Streak Plate Technique (day 1) 13: Specimen transport (collection) 14: Hand Washing	Ex. 9, con't. Ex. 10 Ex. 12 Ex. 13. Ex. 14
9	9/28, 29 M, T	9, con't: Gram staining, con't. 10: Miscellaneous staining, continued, Endospore 12 con't: Culture techniques con't. (day 2) 13, con't: Specimen Transport (inoculation) 14, con't: Hand Washing con't. 15: Bacterial plate counts Appendix C: Dilutions	Ex. 9, con't Ex. 10, con't Ex. 12, con't Ex. 13, con't Ex. 14, con't Ex. 15 App. C
10	9/30, 10/1 W, Th	12 con't: Culture techniques con't. (day 3) 13, con't: Specimen transport con't. (results) 15, con't. Bacterial counts con't. (results) Appendix C: Dilution's 16: Bacterial Growth Characteristics: Osmotic Pressure, Oxygen, Pigment production, pH, Temperature (A-E) (Day 1: Inoculations)	Ex. 12, con't. Ex. 13, con't Ex. 15, con't App. C Ex. 16 A - E
11	10/5, 6 M, T	12, con't: Culture techniques, con't. (day 4)(Gram stain) 16, con't: Bacterial Growth Characteristics con't. (A-E) (Results and Interpretations) 18: Staphylococci (day 1)	Ex. 12, con't Ex. 16, con't. Ex. 18
12	10/7, 8 W, Th Fri, 10/9 Furlough Preproom Closed	QUIZ # 2 (Exercises; 9,10,11,12,13,14,15,16) 17: Selected Physiological and Biochemical Tests Introduction to Gram Negative Rods, (B-E) (Gram stain) 18, con't: Staphylococci, con't. (day 2) (Gram stain)	Ex. 17 A - E Ex. 18,con't
13	10/12, 13 M, T	17, B-E con't: Physiological and Biochemical tests 17, F-K start: Physiological and Biochemical tests 18, con't: Staphylococci, con't. (day 3) 24: Take home unknown quiz available on line Case History # 2 Due	Ex. 17, con't Ex. 17 F-K Ex. 18,con't Web Site / Blackboard Appendix N

**TENTATIVE
LAB # DATE**

EXERCISE

**SUGGESTED READINGS:
Lab Manual Atlas**

TENTATIVE LAB # DATE	EXERCISE	SUGGESTED READINGS: Lab Manual Atlas
14 10/14, 15 W, Th	17, con't: Physiological and Biochemical tests, con't. B-K 18, con't: Staphylococci, con't. (day 4) 21: Antiseptics & Disinfectants 22: Antibiotic sensitivity testing 24: Unknown #1 – (day 1) (streak plates)	Ex. 17, con't Ex. 18, con't Ex. 21 Ex. 22 Ex. 24, App. D - I
15 10/19, 20 M, T	19: Streptococci (day 1)(throat cultures) 21, con't: Antiseptics & Disinfectants, day 2 22, con't: Antibiotic's day 2 23: Isolation of Antibiotic Resistant Mutants (day 1) 24: Unknown #1, con't. – (day 2) (Gram stain & inoculations) 30: Isolation of antibiotic producer from soil; collection Unknown take home quiz Due	Ex. 19 Ex. 21, con't Ex. 22, con't Ex. 23 Ex. 24, con't Ex. 30
16 10/21, 22 W, Th Fri, 10/23 Furlough Preproom Closed	19: Streptococci, con't. (day 2) 23: Isolation of Antibiotic Resistant Mutants (day 2) 24: Unknown # 1, con't. – (day 3) 30: Isolation of antibiotic producer from soil, day 1 Choice of Microbiology oral topic & date DUE	Ex. 19, con't Ex. 23, con't Ex. 24, con't Ex. 30, con't
17 10/26, 27 M, T	19, con't: Streptococci, con't. (day 3) 24: Unknown #1, con't. – (day 4)(results) Brief Outline of Oral Due	Ex. 19, con't Ex. 24, con't
18 10/28, 29 W, Th	QUIZ # 3 (Exercises; 16,17,18,21,21,22, some24) 19, con't: Streptococci, con't. (day 4) 20: Urine cultures, day 1 24, con't: Unknown #1, con't. How to write the report	Ex. 19, con't Ex. 20 Ex. 24, con't
19 11/2, 3 M, T	20, con't: Urine cultures, day 2 30,con't: Isolation of antibiotic producer from soil, day 2 Case History # 5 Due Begin Oral presentations NOTE: Detailed Outlines Due on the day of oral	Ex. 20, con't Ex. 30, con't Appendix N
20 11/4, 5 W, Th	24: BEGIN UNKNOWN #2 (day 1)(streak plates) 30,con't: Isolation of antibiotic producer from soil, day 3 Video: "The Coming Plague" "Revenge of the Microbes" Case History # 3 Due Oral presentations continued	Ex. 24, con't Ex. 30, con't Video Appendix N
21 11/9,10 M, T	Lab Report # 1 Due (unknown #1) 24, con't: Unknown #2, con't (day 2)(Gram stains) 30,con't: Isolation of antibiotic producer from soil, day 4 Oral presentations continued	App. D - I Ex. 24, con't Ex. 30, con't
22 11/11, 12 W, Th	Veterans Day observed No Lab Classes Wed & Thurs (Laboratory will be closed) Nov 12 Furlough day - Preproom closed	
23 11/16, 17 M, T	QUIZ # 4 (Exercises; 19, 20, 23, 24, 30) 24, con't: Unknown #2, continued (day 3) 26: Water Microbiology - Presumptive test (day 1), Membrane filter method demonstration 28: Microbiology of Wine Making (day 1)	Ex. 24, con't Ex. 26 Ex. 28

**TENTATIVE
LAB # DATE**

EXERCISE

**SUGGESTED READINGS:
Lab Manual Atlas**

24	11/18, 19 W, Th	24, con't: Unknown #2, continued (day 4) 25: Immunology: Agglutinations: Slide & Tube agglutinations & demonstrations 26, con't: Water Microbio., con't., Confirmed test (day 2) 27: Spoilage of meat (day 1) (inoculations) Oral presentations continued	Ex. 25 Ex. 26, con't Ex. 27
25	11/23, 24 M, T	25: Immunology: Agglutinations continued 26, con't: Water Microbiology (day 3) 29: Microbiology of Milk(day 1): Standard plate count of milk, Reductase test demonstration, Fermented milk products (yogurt) Case History # 4 Due Oral presentations continued Start Cleanup	Ex. 25, con't Ex. 26, con't Ex. 29 Appendix N
26	11/25, 26 W, Th	Happy Thanksgiving! No Lab Classes Wednesday & Thursday (Laboratory will be closed) Nov 25 Furlough day - Preproom closed	
27	11/30, 12/1 M, T	25: Immunology: Agglutinations continued if necessary 26, con't: Water Microbiology (day 4) 27, con't: Spoilage of Meat, con't. (day 2) 28, con 't: Microbiology of Wine Making, con't. (day 2) 29, con't.: Fermented Milk Products (day 2) (plate counts) (yogurt tasting) Unknown #2 Written Lab Report Due Continue Cleanup Oral presentations continued	Ex. 25, con't Ex. 26, con't Ex. 27, con't Ex. 28, con't Ex. 29, con't App. D - I
28	12/2, 3 W, Th	Quiz # 5 (Exercises; 24,25,26,27,28,29) Oral presentations continued Finish Cleanup	
29	12/7, 8 M, T	Lab Coats Wrapped and Autoclaved Lab Check Out KEYS DUE! ** Oral presentations continued (if necessary)	
30	12/9, 10 W, Th	LAST DAY OF CLASSES Oral presentations continued (if necessary)	
		Bio 211 Lecture Final: Monday, Dec. 14, 1030-1230	

**** You must follow the check out procedure and turn in your lab keys BEFORE Grades are due, Or you will receive an Incomplete!**

PLEASE NOTE: Lab Coats may be picked up UNTIL the end of finals week ONLY!

After finals week, they are considered donated,

Thank you! Marlene & Tom, 4th floor prep room

Have a great winter break!

