

BIO 211L (formerly Bio 210) Spring 2011 LABORATORY SCHEDULE (Tentative)

Prepared by Marlene DeMers

Web Site: <http://www.sci.sdsu.edu/classes/biology/bio210/lab/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 printing, DeMers *A photographic Atlas for the Microbiology Laboratory*; 3rd edition; Leboffe & Pierce **Lecture Text (required):** Tortora, et al; *Microbiology An Introduction*, Tenth Edition
Please note exercise numbers and Appendices refer to the Laboratory Manual by DeMers. Use the Atlas by Leboffe to find images 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 2/1 by 11:59 PM, Last day to drop 2/3 by 11:59 PM}

Bio 211 LECTURE (20378)	MW 0800 – 0850 GMCS-333
SECTION 1 (20379)	MW 0900 - 1140
SECTION 2 (20380)	MW 1200 - 1440
SECTION 3 (20381)	MW 1500 - 1740
SECTION 4 (20382)	MW 1800 - 2040
SECTION 5 (20383)	TTH 0800 - 1040
SECTION 6 (20384)	TTH 1100 - 1340
SECTION 7 (20385)	TTH 1400 - 1640
SECTION 8 (20386)	TTH 1700 - 1940

TENTATIVE

READINGS:

LAB # DATE

EXERCISE

Lab Manual

LAB #	DATE	EXERCISE	READINGS: Lab Manual
1	1/19, 20 W, Th	First Day of classes: Labs begin: Crash Lists, Introduction, Laboratory description, Overview of course (Includes Microbiology oral topics discussion); Necessary supplies, Lab Safety. Review of calculations	Handouts Safety DVD &; vi-ix Handout
2	1/24,25 M, T	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 Digital Video (lab manual): Using the Microscope 2: Other Microscopes; (darkfield, phase) 3: Observing Protozoa, Hay Infusion, Cyanobacteria	Add codes given out after Attendance DVD & Safety; vi-ix Ex. 1 Microscope DVD Appendix A DVD Ex. 2 Ex. 3
3	1/26, 27 W, Th	1, con't: Brightfield microscopy, con't. 2: Other Microscopes, con't. (stereo) 4: Observing Fungi and Yeast prepared slides & plates Introduction to Case Histories (practice with #1)	Ex. 1, con't. Ex. 2, con't. Ex. 4 Appendix N: Case History # 1
4	1/31, 2/1 M, T	4, con't.: Fungi con't. (if necessary) 5: Observing Bacteria; Gallery of microorganisms; cell shape & arrangement 6: Aseptic Technique (inoculations) Case History # 6 Due Note: Tues, Feb 1 is last day to drop classes & Thur, Feb 3 is last day to add classes Both before 6:00 PM	Ex. 4, con't Ex. 5 Ex. 6 (DVD) Appendix N: Case History # 6 or Blackboard/Website

**TENTATIVE
LAB # DATE**

EXERCISE

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Lab Manual**

5	2/2, 3 W, Th	6: Aseptic Technique (smears from inoculations) 7: Smear preparation 8: Simple staining 11: Culture media preparation	Ex. 6, con't. Ex. 7 (DVD) Ex. 8 (DVD) Ex. 11, Appendix L
6	2/7, 8 M, T	QUIZ # 1 (Exercises; 1,2,3,4,5,6,7,8) 9: The Gram Stain (start) Appendix B: Troubleshooting the Gram Stain 11, con't: Culture media preparation con't	Ex. 9 Appendix B Ex. 11, con't
7	2/9, 10 W, Th	9, con't: Gram staining, con't. 10: Miscellaneous staining: Acid-Fast staining, Capsule 12: Streak Plate Technique (day 1) 13: Specimen transport (collection swab only) 14: Hand Washing	Ex. 9, con't. Ex. 10 Ex. 12 Ex. 13. Ex. 14
8	2/14, 15 M, T	10: Miscellaneous staining, continued, Endospore 12 con't: Culture techniques con't. (day 2) 13, con't: Specimen Transport (inoculation)+ RODAC 14, con't: Hand Washing con't. 15: Bacterial plate counts Appendix C: Dilutions	Ex. 10, con't Ex. 12, con't Ex. 13, con't Ex. 14, con't Ex. 15 App. C
9	2/16, 17 W, Th	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) 24: Unknown #1 – (day 1) (streak plates)	Ex. 13, con't Ex. 15, con't App. C Ex. 16 A - E Ex. 24, App. D - I
10	2/21, 22 M, T	12, con't: Culture techniques, con't. (day 4) 16, con't: Bacterial Growth Characteristics con't. (A-E) (Results and Interpretations) 24: Unk #1, con't. – (day 2) (Gram stain & inoculation on to TSA slant only) 18: Staphylococci (day 1) 24: Take home unknown quiz available on line	Ex. 12, con't Ex. 16, con't. Ex. 24, con't Ex. 18 Ex. 24, App. D - I
11	2/23, 24 W, Th	QUIZ # 2 (Exercises; 9,10,11,12,13,14,15,16) 17: Selected Physiological and Biochemical Tests Introduction to Gram Negative Rods, (B-E) 24: Unk # 1, con't. – (day 3) Inoculate C, D, E 18, con't: Staphylococci, con't. (day 2)	Ex. 17 A - E 24, con't Ex. 18,con't
12	2/28, 3/1 M, T	17, B-E con't: Physiological and Biochemical tests 17, F-K start: Physiological and Biochemical tests 24, Unk # 1, con't. – (day 4) Inoculate F, G, H, I, J, K 18, con't: Staphylococci, con't. (day 3) Case History # 2 Due	Ex. 17, con't Ex. 17 F-K 24, con't Ex. 18,con't Appendix N
13	3/2, 3 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: Unk #1, con't. – (day 5)(results) Unknown take home quiz Due	Ex. 17, con't Ex. 18, con't Ex. 21 Ex. 22 Ex. 24, con't

**TENTATIVE
LAB # DATE**

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14	3/7, 8 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, con't: Unknown #1, con't. How to write the report 30: Isolation of antibiotic producer from soil; collection	Ex. 19 Ex. 21, con't Ex. 22, con't Ex. 23 Ex. 24, con't Ex. 30
15	3/9, 10 W, Th	19: Streptococci, con't. (day 2) 23: Isolation of Antibiotic Resistant Mutants (day 2) 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. 30, con't
16	3/14, 15 M, T	QUIZ # 3 (Exercises; 16,17,18,21,21,22,24) 19, con't: Streptococci, con't. (day 3) Brief Outline of Oral Due	Ex. 19, con't
17	3/16, 17 W, Th	19, con't: Streptococci, con't. (day 4) 20: Urine cultures, day 1 24: BEGIN UNKNOWN #2 (day 1)(streak plates) Case History # 3 Due	Ex. 19, con't Ex. 20
18	3/21, 22 M, T	20, con't: Urine cultures, day 2 24, con't: Unknown #2, con't (day 2)(Gram stains) 30,con't: Isolation of antibiotic producer from soil, day 2 Lab Report # 1 Due (unknown #1)	Ex. 20, con't Ex. 30, con't Appendix N
19	3/23, 24 W, Th	24, con't: Unknown #2, continued (day 3) 30,con't: Isolation of antibiotic producer from soil, day 3 Case History # 5 Due	Ex. 24, con't Ex. 30, con't Appendix N
	3/28 – 4/1	Spring Break No Classes, Laboratory Closed	
20	4/4, 5 M, T	24, con't: Unknown #2, continued (day 4) 30,con't: Isolation of antibiotic producer from soil, day 4 Begin Oral presentations NOTE: Detailed Outlines Due on the day of oral	Ex. 24, App. D - I Ex. 30, con't
21	4/6, 7 W, Th	QUIZ # 4 (Exercises; 19, 20, 23, 24, 30) 24, con't: Unknown #2, continued (day 5) 26: Water Microbiology - Presumptive test (day 1), Membrane filter method demonstration 28: Microbiology of Wine Making (day 1)	Ex. 24, App. D - I Ex. 26 Ex. 28
22	4/11, 12 M, T	24, con't: Unknown #2, continued (day 6) 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. 24, App. D - I Ex. 25 Ex. 26, con't Ex. 27

**TENTATIVE
LAB # DATE**

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23	4/13, 14 W, Th	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
24	4/18, 19 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 Finish Cleanup before tasting 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
25	4/20, 21 W, Th	Finish Cleanup Oral presentations continued	
26	4/25, 26 M, T	Quiz # 5 (Exercises; 24,25,26,27,28,29) Oral presentations continued	Ex. 28, con't Ex. 29, con't
27	4/27, 28 W, Th	Lab Check Out Follow Check Out Instructions KEYS DUE! ** Oral presentations continued (if necessary)	
28	5/2, 3 M, T	Oral presentations continued if necessary	
29	5/4, 5 W, Th	Oral presentations continued if necessary	
30	5/9, 10 M, T	LAST DAY OF CLASSES Oral presentations continued (if necessary)	
Bio 211 Lecture Final: To Be Determined by the lecture instructor –see lecture syllabus Finals week – May 12-19			

** 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 summer!



Spring 2011