

MMBB 255 Laboratory Syllabus/Information

Spring 2008 Semester

Teaching Assistants (office hours scheduled as needed):

Instructor: Tim Steffens; tims@uidaho.edu; LSS 168, 885-8953

Section 01 9:30 — 11:20 AM

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Requirements:

1. All students must bring a printout of that week's lab procedures to class. The lab manual may be found at: www.uidaho.edu/micro_biology/250/250lab.html Use a three-ring binder to keep things organized; use tabs to help find things quickly. It is recommended to print out all the material and bring all of it to lab each week. An excellent addendum and helpful purchase is the "A Photographic Atlas for the Microbiology Laboratory" by Leboffe & Pierce.
2. While in the laboratory all students are required to wear lab coats (or old large shirt) and safety glasses. Lab coats may be bought at chemstores (cheapest) or the bookstore; There are extra lab coats available for use also. **No open toed shoes** (i.e. sandals) allowed in the lab.
3. **Attendance in the laboratory is mandatory.** If more than two labs are missed without an official excused absence then you will get a zero (F) for your lab grade. Notify your TA or Tim Steffens before class if possible.
4. **A note about time.** Please be aware that since we are working with biological systems we have to schedule our time around the organisms involved in the experiments. You will therefore be expected to come in times other than those scheduled. We will try to keep this at a minimum.
5. **Academic Dishonesty.** Acts of cheating or plagiarism in the MMBB 255 laboratory will result in an automatic zero for that quiz and/or practical exam. Any repetition of this will result in a zero for the laboratory itself. Cheating refers to the acquisition of answers to test (quiz) questions or assigned materials in a dishonest fashion. Plagiarism is defined as 1) the use of another student's writing as your own and/or 2) the use of writing from published sources without citation. Plagiarism includes copying or paraphrasing another's writing with slight changes of wording. Please see UI Faculty-Staff Handbook, Chapter 2 (2300), Article 2 — Academic Honesty for more information.

Grading:

This laboratory will be graded on a straight scale (i.e. $\geq 90\%$ is an A, ≥ 80 to 89 is a B, ≥ 70 to 79 is a C, ≥ 60 to 69 is a D, and < 60 is a F). Any errors in grading must be brought to the instructor/TA attention within 1 week after the student received the graded material back.

Points:

7 Quizzes	30 pts. Each (210 pts.)
2 Practical Exams	100 pts. Each (200 pts.)
Unknown #1	20 pts.
Unknown #2	50 pts.
<u>Unknown #3</u>	<u>120 pts.</u>
Grand Total	600 pts.

General Information:

Microscopes. If your microscope is improperly stored or abused after the second week of lab, you will lose 2 pts. for the first, 5 pts. for the second, and 10 pts. for every following infraction.

Quizzes. Quizzes will be approximately every other Tuesday (except the last one of the semester) and will cover the previous weeks' labs since the last quiz. Make-up quizzes will be allowed only for officially excused absences.

Unknowns. Unknown #1 will test your ability to stain cells, distinguish Gram positives and Gram negative organisms, and describe morphology. Unknown #2 will test your ability to isolate and determine the staining and biochemical properties of the individual organisms. Finally, Unknown #3 will test your ability to isolate and identify a mix of two organisms down to genus and species.

Extra Credit. There may be some extra credit points available on the quizzes and/or practical exams.

Open Labs. There will be an open lab every Friday as needed from 3:30-5:30 PM where you can get help and/or finish things that you were not able to get to earlier in the week.

Schedule of Events

Date	Event	Comments
Thursday, January 10	Introduction and Safety	Sign the rules if you comprehend them.
Tuesday, January 15 Week 1	Microscope Use. Wet Mount and Hanging Drop	Label your drawers/shelf
Thursday, January 17 Week 1	Microscopes, slide prep., simple stain, streak for isolation.	Will assign microscopes. Sign up for Fermentation's.
Tuesday, January 22 Week 2	Staining: Gram and negative	
Thursday, January 24 Week 2	Staining: Acid-Fast; Enrichments: Spore and Myxo.	
Tuesday, January 29 Week 3	Quiz #1; Unknown #1; Staining: Spore; Enrichments: Spore, Psychrophile, bioremediation	
Thursday, January 31 Week 3	Food: root beer, beer, and wine; Finish Unk. #1	
Tuesday, February 5 Week 4	Food: Cheese and Yogurt; Prep. Liquid media and diluent	Unknown #1 due
Thursday, February 7 Week 4	Prep. Agar media; Food: check all, finish yogurt, process cheese; Inoculate tubes.	Come in Friday to check growth in tubes.
Tuesday, February 12 Week 5	Quiz #2; Finish Root beer and Cheese; Isolation techniques.	
Thursday, February 14 Week 5	Bottle Beer, Quant. Isolation tech.; Growth Curve and spect. work. Start Unknown #2	
Tuesday, February 19 Week 6	Biochemical Tests (including unknown #2)	Come in Wednesday.
Thursday, February 21	More biochem tests, interpret	

Week 6	biochems; Finish Unk. #2	
Tuesday, February 26 Week 7	Quiz #3 ; Conjugation, Ames, Chromosomal DNA isolation.	Unknown #2 Due
Thursday, February 28 Week 7	Lab Practical 1 (weeks 1-6)	Good Luck! Note the Study Guide!!
Tuesday, March 4 Week 8	Digesting and Ligating DNA. Ames analyze	
Thursday, March 6 Week 8	Transformation, Transposon mutagenesis interpret	
March 10-14	Spring Break!	Have Fun!
Tuesday, March 18 Week 9	Quiz #4 ; Isolating plasmid DNA	Come in Monday!
Thursday, March 20 Week 9	Agarose gel electrophoresis	Happy Easter!
Tuesday, March 25 Week 10	Human Pathogens: Throat and Skin Start Unknown #3	Need to come in Wednesday.
Thursday, March 27 Week 10	Finish Throat and Skin pathogens	
Tuesday, April 1 Week 11	Quiz #5 ; Human Pathogens: Intestinal;	Need to come in Wednesday.
Thursday, April 2 Week 11	Finish Intestinal pathogens;	
Tuesday, April 8 Week 12	Isolation of Bacteriophages	
Thursday, April 10 Week 12	Testing viral specificity	
Tuesday, April 15 Week 13	Quiz #6 ; Isolating and testing antibiotic producers; Kirby-Bauer Test	
Thursday, April 17 Week 13	Finish antibiotics and Blood typing (Serology)	
Tuesday, April 22 Week 14	Food Safety: Beef, chicken, eggs, and produce	
Thursday, April 24 Week 14	Quiz #7 ; Finish food safety	
Tuesday, April 29 Dead Week	Check Out, Review	Unknown #3 Due
Thursday, May 1 Dead Week	Practical Exam #2 (weeks 7-14)	Good Luck! Dead Week. Printout Study Guide.