BIMM 121 Laboratory in Microbiology

Summer Session II 2013

Lecture: TuWThF 8:00am – 9:20am in Sequoyah Hall 147

Laboratory: TuWThF 9:30am – 1:30pm in 2310 or 2332 York Hall

Office Hours: Tuesdays 2pm-3pm at 1145C H&SS

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Course Structure

This course will introduce you to the fundamentals of microbiology and allow you to explore the many ways in which microbes affect and are used in our lives. We begin the course with a foundation in basic techniques such as sterile techniques, microscopy, methods of quantitating microbes, and preparing and examining stained slides. The remaining duration of the course will comprise four main units: a comprehensive look at bacterial physiology, understanding the complex microbial community of soil, metagenomics as a tool in exploring complex communities, and the use of microbes in various aspects of our lives. Each of these units comprises several multi-day experiments and there will be considerable overlap in the execution, methodology, and analysis of data from each of these units. Throughout the course, you will also receive training in accurate data entry and analysis, scientific reasoning, and in clear and concise scientific writing.

Equipment

For this lab you will need to purchase:

- A lab book (bound notebook, regular or spiral bound). Loose-leaf binders not allowed
- A lab coat

- Eye protection (standard prescription eye glasses are not sufficient, you may wear either safety glasses or goggles)
- A sharpie permanent marker pen, preferably fine point.

Attendance and Absences

1. Your attendance is required at **EVERY** lab and through the entire lab period, until all the experimental work for the day is completed.

2. Absences will NOT be treated lightly. The labs are set up for groups of two or more and your absence will place an unnecessary burden on your partner. There are no make up labs and you will not be allowed in the lab on non-lab days, although you may be asked to make up the work from the day you missed.

3. Documentation will be required for all unavoidable absences.

4. If you are likely to have interviews for graduate school, etc., please schedule them on non-lab days.

5. All absences without prior notification/permission and the appropriate paperwork will be considered unauthorized.

6. 50-point penalty for the first unauthorized, unexplained absence from the lab. If there is a second such absence, you will be asked to drop the course.

7. If you are ill on a lab day or have an emergency, e-mail or call (instructor or lab partner) before the start of the lab. If you are ill enough to miss lab you must go to the student health center and provide documentation of your illness.

Assignment Deadlines and Submission:

1. A hard copy of each assignment is due in the first 5 minutes of the lab period of the day on which your report is due. All assignments submitted more than 10 minutes after the start of lab are automatically late and lose 10% of points. Penalty for late submission will be 10% for each day late.

2. In addition you are required to submit an electronic copy of your Lab Reports to Turnitin.com. A link to the e-submission website will be provided on TED. Failure to submit on Turnitin.com will result in 0 (zero points) recorded for that report. Check the deadline of the Turnitin.com submission and make sure you adhere to it. Students agree that by taking this course all required papers would be subject to review for textual similarity by Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of

such papers. Use of the Turnitin.com service is subject to the terms of use agreement posted on the Turnitin.com site.

Regrade Requests:

All regrade requests should be submitted in writing within one week of receiving the graded material.

Most Likely Grade Distribution

A = 90% - 100%

B = 80% - 89.9%

C = 70% - 79.9%

D = 60% - 69.9%

F = below 60%

Grade Distribution

	Points
Notebook checks	20
Lab Skills Evaluation	20
Quiz (x9)	40 (1 lowest score dropped)
Homework (x4)	60
Lab report 1	50
Lab report 2	100
Midterm	80
Finals	90
Total	460

Notebook

All notebooks should have a table of contents (handwritten OK) so on the first lab day leave several blank pages at the beginning of your notebook. Number your pages. Entries should be made in chronological order and EVERY day. Each day's entries on each experiment should begin with a brief (1 – 2 sentences) summary of work done on the same experiment the previous day.

How to use your notebook

Table of contents - update everyday- leave at least 4-5 pages for updating

Start a new page each day for each new experiment:

- Purpose of experiment
- Procedure
    - Outline or page from which protocol was taken
    - Note any changes
    - Note who did which part of the procedure – who inoculated controls, etc
    - Note which organisms you used – name and species of the controls, etc
    - Errors
- Observations
    - Write
    - Draw
- Questions and connections
- Conclusion or summary
- Answer any questions in the manual or that were raised in class.
- Number your pages

You may leave space to complete an experiment. When the experiment is complete and all observations have been made, cross off any blank pages or parts of pages following the written portion.

Lab Performance and Participation

In addition to quizzes, midterms, lab reports and assignments, student evaluations will be based on the following criteria:

- Lab techniques will be evaluated in class

- Subjective student evaluations will be based on the following criteria:
    - Pre-lab preparation
    - Careful management of lab procedures (e.g., sterile technique, proper

waste disposal, experimental procedures, etc.)
- Ability to adapt to unforeseen procedural changes
- Caliber of thinking before asking questions Scientific approac
  proper use of notebooks, controls, experimental design)
- Accuracy
- Independence
- Safety consciousness
- General neatness in lab

Please note**:** You will be expected to get into the habit of methodical, well-planned and organized work by the mid-term. This will help you with the experiments in the second half of the course.

Course Website

This course is on TED and should automatically appear on your TED account as soon as you register for the class. We will use TED to post information on experiments, exams, schedules, readings and practice material, experimental data, report guidelines, etc. We strongly encourage you to use the Discussion board to post questions or answers to questions and to use it as a forum for exploring the material. The TAs and I will routinely check this website and answer any questions but feel free to respond as well. This website will also be used to post any announcements that pertain to the entire class. Please check the site regularly and update yourself on the information provided.

Reading during the Course

Read the relevant chapters of the Lab Manual before you come to lecture. You can find information as to which chapters will be covered on a particular lecture by clicking on the "Directed Reading" file on the respective week's folder on TED.

University Policy on Integrity of Scholarship

The principle of honesty must be upheld if the integrity of scholarship is to be maintained by an academic community. The University expects that both faculty and students will honor his principle and in so doing protect the validity of University grading. This means that all academic work will be done by the student to whom it is assigned, without unauthorized aid of any kind. Instructors, for their part, will exercise care in planning and supervising academic work, so that honest effort will be encouraged.

Student Responsibility:

Students are expected to complete the course in compliance with the instructor's standards. No studer attempting to receive a grade by means other than honest effort; for example:

- No student shall knowingly procure, provide, or accept any unauthorized material that contains questions or answers to any examination or assignment to be given at a subsequent time.

- No student shall complete, in part or in total, any examination, or assignment for another person.

- No student shall knowingly allow any examination or assignment to be completed, in part or in total, for himself or herself by another person.

- No student shall plagiarize or copy the work of another person and submit it as his or her own work.

- If any work is plagiarized from that of another student, both students will be reported to the Office of Academic Integrity, even if one of the students has graduated already. Remember that most graduate schools check the undergraduate records for any indications of dishonesty before awarding a degree.

- No student shall alter graded class assignments or examinations and then resubmit them for regrading.

- No student shall submit substantially the same material in more than one course without prior authorization.