

## **Biosci 245 Media and Solution Prep**

Instructors:

MW 9:30 – 12:45 Guy Hamilton ([ghamilto@shoreline.edu](mailto:ghamilto@shoreline.edu) 546-4786)

Office hours MW 12:45 - 1:45 Room 2809

TTh 5:30 – 8:45 Nicola Suter ([nsuter@shoreline.edu](mailto:nsuter@shoreline.edu) 533-6619)

Office hours TTh 4:30 – 5:30 Room 2810

### ***Course Goals***

- 1) Become comfortable with the basic laboratory math skills required to make chemical solutions at a variety of concentrations.
- 2) Become comfortable working with standard lab equipment such as the spectrophotometer, incubators, shakers, micropipetors and pH meters.
- 3) Become familiar with the requirements to maintain a precise laboratory notebook.
- 4) Understand the requirements for personal as well as class lab safety.

### ***How the course will run***

The course will meet for three hours twice a week in the lab. Your time in the lab will be a mixture of lecture, problem solving, and working on laboratory techniques. The emphasis of the lab is weighted towards hands on, experiential learning, which means the minority of the class time will be spent listening to lecture. As a consequence your attendance is absolutely critical to achieve the maximum learning experience.

*Because it is absolutely critical to attend all classes there will be an automatic 1 letter grade deduction for every two classes you miss.*

### ***Required text and readings***

*Basic Laboratory Methods for Biotechnology: Textbook and Laboratory Reference.* Seidman and Moore.

- Textbook readings will be assigned on a week to week basis. Additional readings will be found on the supplemental Blackboard web site associated with the class. Every student will be responsible for enrolling in the Blackboard site as this site will be used for class communications including postings of readings and problem sets. *The directions for enrolling can be found by clicking on the **Distance Learning** link on the Shoreline home page then follow the links to create an account and then enroll in the course.*

### **Grading**

Your grade in the course will be determined based on the following criteria:

45% - 3 Quizzes

*Quiz 1 - July 12 for Monday class July 13 for Tuesday class*

*Quiz 2 – July 28 for Monday class July 29 for Tuesday class*

*Quiz 3 – Last day of class*

25% - Lab Notebooks – *to be handed in on the final day of class*

10% - Lab project

15% - Problem sets – *weekly assignments will be worked on in class with lab partner. Can not be made up if you miss class.*

5% - Safety points – *each student will start the quarter with 100 points. Points will be deducted if a student is observed making a safety or lab etiquette violations (these will be outlined in class by the instructor)*

Course Schedule – *subject to change depending on events of the class*

### **Week of**

### **Topics**

June 21

- Course Introduction (Lab notebooks, lab safety)
- Measurements
- Micropipet practice (Calibration and Maintenance)

June 28

- Measuring techniques

- Making solutions (calculations and practice)

July 5

- Serial Dilutions and Standard Curves (protein and DNA)

July 12

- Quiz  
- Standard curves cont.  
- pH and buffers (calculations and practice)

July 19

- Hazardous Chemicals and MSDS  
- Growth media, sterilization and sterile technique  
- Bacterial growth

July 26

- Quiz  
- Bacterial growth curves  
- Lab projects (TBA)

Aug 2

- Lab project cont.  
- open lab time to complete or repeat unfinished labs

Aug 9

- Final quiz review and final quiz  
- Lab notebooks due