CHEMISTRY 530L: BIOCHEM LABORATORY, spring 2015

Lecture: Monday 12-12:50

Labs: T-TH 1:00pm-5:00pm Section 401
      W-F 1:00pm-5:00pm Section 402

Morehead Labs rm. 203

Instructor:
Brian P. Hogan, Ph.D.: hoganb@email.unc.edu
Office: Kenan labs rm. B825

Lab Teaching instructors:
TBA

Requirements for the course:

Lab Manual
A version of the CHEM 530L lab manual will be available at the bookstore. You will need to bring it with you each lab session. You will be responsible for reading and preparing for each lab before we meet. Preparation includes answering the prelab questions that precede each lab and outlining the experiments for the given lab period.

Lab Notebook
You will be required to keep a contemporaneous lab notebook throughout the course of the semester. Your notebook should be bound, the pages should be prenumbered, and should contain a carbon copy sheet. All data, calculations, and drawings should be entered directly into your notebook.

Lab notes:
Safety, safety, safety: During the course of this laboratory experience we will be working with potentially pathogenic organisms (E. coli), hazardous chemicals (phenol/chloroform), and a variety of other hazards (fire, glassware, high voltage power supplies, etc.). Therefore, not only is it reasonable and prudent, but it is required by the chemistry department and university health and safety office that safety glasses be worn at all times. Please adhere strictly to the following:

*wear safety goggles and lab coat at all times
*wear gloves when handling microorganisms and chemicals
*no open-toed shoes
*long pants are recommended
*familiarize yourself with the fire exits in the room
*note the location of the fire extinguisher
*if you don’t know what a chemical is...ask before using it.
*no food or drink in lab
**Student Evaluation:**
Given that the laboratory portion of this course is the major focus of this experience, it is fitting that 80% of your grade will be determined by your efforts in the lab. There are four components to your grade:

1. **Participation** 25%
   This includes: participation in Monday lecture group assignments, quiz grades, lab notebook grades, punctuality, lab preparedness, participation in lab, and prelab write-ups. Note that each TA will also be observing your technical skills during the semester and evaluating your practical skills. Your TAs and I will come up with a composite score equal to one lab quiz grade based on your technique. We should not have to tell you 100 times during the semester how to read a pipette volume, for example.

2. **Lab research reports** 55% TOTAL
   - LAB REPORT 1 = 15%
   - LAB REPORT 2 = 20%
   - LAB REPORT 3 = 20%

3. **FINAL EXAM = 20%**

**Attendance:**
Attendance is mandatory. Due to the strict scheduling of the course and the progressive, building, nature of the techniques learned, you must be in lab at your assigned time. Please be punctual. Lab starts at 1 pm on the dot, so be there, and be ready to participate.

**Note for the spring semester:** plan your travel plans around your lab schedule.

**Lab Reports:**
Lab reports will be discussed in much more detail as the course progresses. These reports will comprise 55% of your final grade; therefore, a great deal of care must be taken in preparing them. Just a reminder, these written reports need to be your own individual work. You may consult with other students when collecting data and during the proofreading process, but when it is all said and done, the final product must come strictly from your brain. You may cite outside sources in your reports, but make sure to cite them. Remember, plagiarism is a violation of the honor code. In sum, when in doubt--cite a reference. Additionally, I encourage you to take some time and visit either the Health Science library or the Chemistry library and read some primary literature (*Biochemistry* or *The Journal of Biological Chemistry* are good choices). The benefits are two-fold, not only will you get a feel for how research papers are written, but you will learn your way around the current literature which will expose you to how the techniques your are currently learning are actually used.
**Lateness penalty:**

I reserve the right to drop your **FINAL letter grade by ½ grade** for each lab report that is submitted beyond the announced deadline. For example, if your final grade worked out to a “B+”, but you turned in one lab report late, your final letter grade would be decreased to a “B”. I will not accept lab reports beyond 48 hours past the due date/time. They will not be read and the score will be calculated as a zero in your final grade.

**Some final thoughts:**

This course represents an opportunity to learn the basic skills and techniques necessary to become a fully functional, self sufficient, research biochemist. It also represents a truly independent learning experience that will challenge you to not only understand didactic material, but to put that knowledge to practice in short order. If you stay focused, organized, and apply a little bit of elbow grease, I’m sure you’ll walk away from this class with a heightened degree of self satisfaction. Relax, enjoy yourself, learn from your mistakes, and don’t be afraid to ask questions.

**Tentative Schedule of Labs**

To be provided in lab

<table>
<thead>
<tr>
<th>LAB REPORT 1</th>
<th>Last Friday in February, 5pm</th>
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</thead>
<tbody>
<tr>
<td>LAB REPORT 2</td>
<td>Last Friday in March, 5pm</td>
</tr>
<tr>
<td>LAB REPORT 3</td>
<td>Third Monday in April, 5pm</td>
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Tentative list of experiments (subject to slight modification based on results because this is a real lab, not a cookbook set of experiments):

Expt. Number – each number constitutes an individual lab period. Dates will be filled in once the semester begins and bacteria begin growing.
Open or redo any experiment yielding poor results

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Check out and Clean out