

**Lab in Biochemistry and Molecular Biology****Instructor:** Professor Nicole Horenstein horen@chem.ufl.edu

402 Leigh Hall

**Office hours:** Times and place to be announced; also by appointment (horen@chem.ufl.edu)**Lab manual** is available at Target Copy (price to be announced, should be <\$15) We will also use DNA sequence analysis software. Recommended freeware can be found at <http://biologylabs.utah.edu/jorgensen/wayned/ape/>**Attire** is lab casual. Safety glasses, close-toed shoes, hair pulled back. No loose clothing or jewelry.

The key emphasis in this course is to provide you with a practical understanding of some fundamental techniques used for drug discovery and the handling, analysis, and purification of nucleic acids and proteins. In one semester you will amplify the gene for beta-lactamase with the polymerase chain reaction, clone the DNA, analyze it with restriction enzymes, then express the enzyme in *E. coli*. You will purify the recombinant enzyme, and measure steady state kinetics. Further, you will identify beta lactamase inhibitors from *Streptomyces*. The course will have a one hour discussion section and a three hour lab session per week. The grading scheme for the course will be as follows:

Lab Notebooks	40 % (graded 4 times)
Writing	40 %
Lab Performance & Preparation	10 %

Following is a description of your course responsibilities:

**Lab Notebooks:** Good record-keeping is a key aspect of successful and efficient research. Equally pertinent to this class is that all of the data and experimental design information that you record in the notebook will be the basis for your lab write-ups. See the handout "Lab Notebooks" for guidelines on how to keep your lab book. Lab books will be graded at unannounced points four times over the semester. **Lab notebooks do not leave the lab.** If it is missing when we grade, we must assign you a zero for that grading period, so do not take it home!

**Writing:**

10%	Bibliography for beta lactam antibiotics and beta lactamase enzyme discovery
15%	Background paper for Beta lactam antibiotics and beta lactamase enzymes (due mid-term)
10%	Abstract for experimental results from cloning work (1 <sup>st</sup> half of course)
15%	Final Paper: Present experimental work

Late assignments will receive a lower letter grade, unless there is a justified reason such as a documented illness. Criteria are 1) Quality of content (accuracy and scholarship), 2) Development of ideas/hypothesis evaluation ("what is the interpretation of your data?") and, 3) Grammar and spelling. "Focus questions" in the manual highlight intellectual content you should master.

**Lab Performance:** You are expected to come to lab prepared with your safety glasses, properly attired, and having read the experiment in advance. We have three hours per lab session and lack of preparation means you may not finish your experiment! Part of your preparation will be evaluated by in-lab evaluation (i.e. if you set off to work efficiently and complete in a timely fashion, you were prepared). Note that if an experiment does not work, you won't necessarily be penalized if you can explain possible reasons for the result, and how you would fix the problem. Good technique, diligent work and preparation will be recognized!

**Final Grades** The final grade is determined by the grades earned for the various course activities, described above. Please see the instructor if you have any questions about completing course activities. Students are reminded that the letter grade of "A" is earned for exceptional work.

**Student Accommodations** Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

**Missed Lab Policy:** Due to the nature of this lab course, a missed laboratory cannot be made up. If you miss a lab due to illness, service to country, official sport event participation, etc, and you provide documentation supporting your absence, we will accommodate your absence.

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**Counseling and Wellness Center**

Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.