

**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**Lab manual** is available at Target Copy. 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 dangly clothing or jewelry.

The key emphasis in this course is to provide you with a practical understanding of some fundamental techniques used for the handling, analysis, and purification of nucleic acids and proteins. In one semester you will amplify the gene for carbonic anhydrase type II (hCAII) with the polymerase chain reaction, clone the DNA, analyze it with restriction enzymes, then express hCAII in *E. coli*. You will purify the recombinant enzyme, and measure some steady state kinetics. 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)
Lab Reports (2)	40 % (20 % each)
Lab Performance & Preparation	20 % (including possible pop quiz in discussion section)

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, three 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.

**Lab Reports:** Two reports will be graded for this course, each contributing 20% towards the final grade. Lab report coverage and due dates are as follows:

Report #1	exps. 1-6	February 28 (effectively covers your cloning work)
Report #2	exps. 7-12	April 23 (effectively covers your work with human carbonic anhydrase protein)

Late lab reports can not be accepted, unless there is a justified reason such as a documented illness. Criteria for reports 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.

**Lab Performance:** You are expected to come to lab prepared with your safety glasses, properly attired, and having read the experiment in advance. (The Wednesday discussion period may feature a few pop-quizzes that can contribute toward your grade) 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 Accomodations** 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 can not 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.

**Cell phones, etc** Cell phones, PDAs, and other personal e-devices may not be used in the lab. Step outside if you must.

**Academic Integrity:** The Honor Code at the University of Florida pertains to all coursework.