

### ORGANIZATIONAL DETAILS

Lecturers: Anthony C. Bishop, Room 520 Merrill, x8316, acbishop  
Office Hours: Monday 3-5 pm, or by appointment  
Patrick L. Williamson, Room 323, LSB, x2143, plwilliamson  
Office Hours: Tuesday and Thursday 9-10 am, or by appointment

Class Meetings: Lecture: MWF, 11:00 am; F, 2:00 pm, Merrill LR 4  
Laboratory: T, W, Th: 2:00 pm, Merrill Room 404

Text: Lehninger, Nelson, and Cox; *Principles of Biochemistry, 4th Edition* (W.H. Freeman, 2005). You will find it extremely helpful to read the applicable assignment in the text *before* attending class.

In addition, research papers from the biochemistry literature will be assigned.

Reference Text: C. Branden & J. Tooze, *Introduction to Protein Structure, 2<sup>nd</sup> Ed.* (Garland, 1999). On reserve in the science library.

Course Website: The official course website will be the BIOLOGY 30 site on Blackboard (**0708S BIOL-30 Biochemistry**). To avoid confusion, all posted course documents or announcements—generated by either Prof. Williamson or Prof. Bishop—will be placed on the Bio 30 site, not Chem 30.

1. Problem sets: These are for your benefit and will not be graded. It will also be necessary for you to gain familiarity with molecular modeling programs and access protein and nucleic-acid coordinate sets that are available online.
2. Exams: There will be four exams, three during the semester and one during finals week. **If any exam time presents an unavoidable conflict, please contact Prof. Williamson or Prof. Bishop to schedule an alternate time. Rescheduled exams must take place prior to the scheduled exam time.** The scheduled exams are as follows:

**EXAM I: Protein Structure:**

Wednesday, Feb. 20, 7:00-9:00 pm, Merrill 2

**EXAM II: Membranes and Membrane Function**

Tuesday, March 11, 7:00-9:00 pm, Merrill 2

**EXAM III: Nucleic Acids and Catalysis**

Thursday, April 10, 7:00-9:00 pm, Merrill 2

**EXAM IV: Metabolism, Bioenergetics, and Proteomics**

TBD

The three-hour EXAM IV, *which will cover only the final five weeks of the course*, will be held during the regular final-exam period, in the time slot to be announced. Exam questions are drawn from reading, lectures, laboratories, and material presented on molecular modeling. Exams will be open book (open texts and notes).

3. Laboratory Write-ups: The laboratory work in this course will be written up rather differently than in most of the other courses with which you have had experience. Each of you must obtain two bound notebooks that will harbor your laboratory notes. Some experiments will be written up in notebook A, others in notebook B. (While you are using one notebook, we will be grading completed work in the other.) Each laboratory experiment will be written in three parts—the first, before coming to the lab; the second, while in the lab; and the third, after the experiment is completed.
  - a. Before coming to lab: In your lab notebook, you should note all of the experimental protocols that will be followed. This is easily accomplished by photocopying the lab handouts (or by simply cutting up the lab handouts themselves) and pasting the procedures directly into your lab book. In addition, you should include a summary or outline of what the day's activities will be, and how they relate to each other.
  - b. In the laboratory: Your lab notebook should include all of the relevant material that occurs during the lab period. These comments/notes/observations should be written down once and for all during the laboratory, and not recopied. In addition, your notebook should include a) any and all changes to the protocols described in the lab handout; b) observations on the appearance, peculiarities, problems, and details of the experiment as it proceeds, and c) the data generated by the experiment.
  - c. After completion of the experiment: In your notebook you should also include a) any graphs, organized tables and calculations called for by the data, b) a short summary of the conclusions, insights, or ideas generated by the experiments, and c) any notations on other experiments that would logically be required or suggested by the data generated above. Finally, each of the laboratory exercises also includes a series of questions, which you should, of course, answer!

Evaluation: Your notebooks will be graded on the basis of several criteria, including legibility, comprehensiveness, organization, and understanding of the principles and experimental conclusions. (Due dates for each of the laboratory write-ups are indicated on the lab schedule.)

4. Overall Evaluation: Your final course grade will be determined by the quality of your laboratory work and reports (approximately 30%) and your performance on the four exams (approximately 70%), one of which, to repeat, will be the final.

### **INTELLECTUAL RESPONSIBILITY**

Any work submitted under your name is to be your work alone. This rule applies, of course, to all exams and to your laboratory notebook, except that throughout the course each student will have occasion to exchange experimental details and data with his/her two lab partners. In other words, although you will be discussing your experimental results with your lab partners (and perhaps other students in the class) and will be exchanging data with your lab partners, **YOU MUST WRITE UP YOUR LAB NOTEBOOK ON YOUR OWN.**