

Chemistry 463/563/BIOL 483: General Biochemistry I; 2009 Fall Semester

Instructor: Timothy L. Born

Meeting times: MW 10:30 – 12:20 PM

Class room: Enterprise Hall, Room 178

Office Hours: MW 1:30 – 2:30 (Fairfax), others by appointment

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Required Text: Lehninger Principles of Biochemistry, 5th Ed., D. Nelson and M. Cox

Optional Text: The Absolute, Ultimate Guide to Lehninger Principles of Biochemistry, 5th edition, Osgood and Ocorr

Course Description

This is the first semester of a two-semester general biochemistry sequence which will introduce the student the rapidly growing subject area of biochemistry. Although it is designed as a two-semester sequence, students taking only the first semester course will receive a generalized introduction to biochemistry that may be sufficient for their educational purposes. We will begin with an introduction to amino acids, proteins, and enzymes. Their structure, function, kinetics, and regulation will all be considered. This will be followed by a brief look at carbohydrates, nucleotides, lipids, membranes, and biosignaling. We will then move on to the vast subject of metabolism and touch on some of the major metabolic pathways over the last half of the semester. We will be following the book closely and lecture notes will be posted on my webpage ahead of time. In the lectures I will strive to explain the concepts covered in the book and provide additional details for clarification.

The goals of this course are:

1. Introduce the student to the language of biochemistry.
2. Illustrate how the chemical principles learned in general and organic chemistry apply to biological situations.
3. Bring each student to a general understanding of and appreciation for the major biomolecules.
4. Have an understanding of the major metabolic pathways and their regulation and interaction.

Biochemistry is a broad and complicated subject with a unique language which adds to the difficulty. You should be forewarned that it takes time and dedication to earn a good grade in this class. You should not expect to earn a “C” simply by showing up every day, and you should not expect to pass the class if you do not show up every day. It is important that each student commit to spending significant hours outside of lecture reviewing the material and working through problems. **If you are unable to make this commitment you are unlikely to perform well in the class and may want to consider taking it at another time.**

If you wish to get the most out of the class and earn a grade you can be proud of you might consider the following study tips:

1. Read the assigned pages before coming to class. You'll be surprised how much easier it is to follow and understand the material if you are at least somewhat familiar with it before class begins.
2. Work through problems early and often and solve them before looking up the answers in the back of the book. You will quickly find out what you do and do not know when you begin answering problems. You might even find a similar problem on an exam. Study guides which contain biochemistry problems are also useful.
3. Study with fellow students. Get together with your classmates regularly to go over what was covered in class that day or week and make sure everyone understands the material.
4. Ask questions. Don't be afraid to raise your hand in class and ask for clarification of something I just covered. Don't be afraid to talk to me after class about something you don't understand. I like nothing better than helping a student learn to love biochemistry.

I will do my best to post lecture notes on blackboard a day or two ahead of time. Feel free to download these files and take them to class with you as it may make it easier to follow the lecture.

No homework will be assigned for class, but students are encouraged to work through problems at the end of the chapters as well as those found in study guides. Not only is this the best way to assure you understand the material, it has also been rumored that the instructor draws inspiration for exam questions from these sources.

Grading and Examination Policy

The grading for this course will be based upon three in-class exams and one final exam. The final exam will only cover the material of the last quarter of the class and will not be cumulative. These exams will cover the material discussed in lecture as well as the assigned reading from the book. I reserve the right to ask questions on material assigned in the reading but not covered in lecture. Students will be expected to memorize pertinent information and be able to apply concepts learned in class to hypothetical situations.

Exam 1	100 pts
Exam 2	100 pts
Exam 3	100 pts
Final Exam	100 pts

A grade of 0 (zero) will be assigned if an exam is missed. Points for all four exams will be combined and the percentage determined by dividing the number of points received by the total number of points available (400). **No extra credit will be given apart from designated exam questions.** If you are going to miss an exam you must contact me ahead of time with a legitimate reason. If you are too sick to study for the exam or to take it, you need to bring me a note from your doctor or the ER.

An absolute grading scale cannot be determined until all scores have been compiled and evaluated. As a general rule, however, the following scale will be followed as closely as possible:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
<60%	F

A plus (+) or minus (-) may be added to a grade at the instructor's discretion.

Honor Code

All students are expected to adhere to the University Honor Code: "Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work." If you are caught cheating on an exam you will have your exam taken away and you will be escorted from the room. The violation will be reported to the Honor Committee and you will be prosecuted to the fullest extent possible.

Note: Cell phones and beepers are not allowed in this class. If they go off, you go out the door.

Important Dates

- First day of classes: August 31
- Last day to drop with no tuition liability: September 15
- Last day to add classes: September 15
- Last day to drop with no academic liability: October 2
- Columbus Day Recess: October 12 (we meet on the 13th)
- Thanksgiving Recess: November 25-29
- Last day of classes: December 12
- Final Exam: Wednesday, December 16, 10:30 – 1:15