

Biochemistry I

Che 482 / Bio 482
Fall 2004

Class time: MWF 11:00 - 11:50
Location: SC 305
Instructor: Dr. Stefan Paula
SC 452
paula@nku.edu
572-6552

Office hours: M 12:00 – 2:00
R 1:00 – 3:00
or by appointment

Text: *Biochemistry*, 3rd Edition, by Voet & Voet, including CD

Prerequisite: passing grade in organic chemistry II (Che 311), no exceptions

Course description:

Introduction to the chemistry of the molecules of life: carbohydrates, proteins, lipids; protein structure and function; enzyme mechanism; membrane structure and function; introduction to metabolism.

Specific topics (not necessarily covered in this order):

- biochemical buffers, pH calculations
- chemistry of amino acids and proteins
- protein purification
- protein structure
- structure/function relationships of proteins
- enzyme kinetics
- enzyme mechanisms
- thermodynamics of enzyme-catalyzed reactions
- introduction to metabolism, glycolysis
- introduction to nucleic acids
- chemistry of lipids and carbohydrates
- biochemical literature and information retrieval

Grading

grade distribution:

3 hourly exams, 20% each	60%
final exam (M, 12/13/04)	20%
in-class quizzes	10%
homework	10%

grade scale:

A	88 – 100 %
B	76 – 88 %
C	62 – 76 %
D	50 – 62 %
F	0 – 49 %

Exams, homework, quizzes:

There will be three one-hour exams and a comprehensive final exam (M, 12/13/04 from 10:10 - 12:10 pm).

Several homework problem sets will be assigned throughout the semester. They will be collected in class.

Several *unannounced* quizzes will be given in class throughout the semester.

Attendance is not taken, but highly recommended. You are responsible for the material covered in class and will find it difficult to do well in this course if you do not attend the lectures.

Missed Exams/Quizzes:

There are no make-ups for missed exams and quizzes. Missed exams and quizzes will count as zero, unless you have a **documented** medical or personal emergency. Your quiz average grade will then be determined based on your average performance in the other quizzes. If you miss an exam because of an emergency, the final exam will count 40% instead of 20%.

Blackboard:

Some of the material presented in class will be posted on blackboard. All students are required to obtain an email account and provide a valid email address.

Honesty:

In accordance with the Student Honor Code, cheating will not be tolerated. A student found guilty of cheating will receive an **F** for the course.

Tentative Schedule of Topics

<i>Topic</i>	<i>Chapter in Textbook</i>
scope of Biochemistry	1
water, aqueous solutions, pH, buffers	2
amino acids/peptides	4
primary structure of proteins	7
protein three-dimensional structure	8
protein function / hemoglobin	10

Exam 1

protein purification	6
enzyme kinetics	13/14
enzyme inhibition	14
enzyme mechanisms	15

Exam 2

carbohydrates	11
introduction to metabolism	16
glycolysis	17

Exam 3

nucleic acids	5
lipids	12
biological membranes	12

Final Exam

This schedule is only tentative and subject to change.

Policies of the Department of Chemistry at Northern Kentucky University

All items on syllabi are subject to change by the instructor.

Students are responsible for reading and understanding all items on the syllabi. Any items not understood must be brought to the attention of the instructor within the first two weeks of class.

The work you will do in any course is subject to the Student Honor Code. The Honor Code is a commitment to the highest degree of ethical integrity in academic conduct, a commitment that, individually and collectively, the students of Northern Kentucky University will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements.

Cheating will not be tolerated. In accordance with the Code of Student Rights and Responsibilities, faculty members have the right to determine actions to be taken when a student is caught cheating.

Faculty members reserve the right to dismiss or to have removed a disruptive student from their classrooms.

For web-enhanced courses only:

This is a web enhanced course. Students meet at regularly scheduled class time and will need access to the internet to fulfill course requirements.