BIO 3513-02 Biochemistry Syllabus
Fall 2007; T/Th 2:00-3:15 pm; HS 3-02-19

Instructor: Mr. Richard Taylor, MS
Office: BSE 1.652 Tel: 458-6259 Office hours: M/W, T/Th 7:00-7:50 am, 9:30-10:45 am or by appointment
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Required Text: Lehninger Principles of Biochemistry by Nelson & Cox, 4th ed. & assigned literature. The text is thorough and in depth and the lecture presentations will normally limit the focus to specific, critical material. Lecture outlines & power point presentations will be available on WebCT prior to class, with the expectation that the student will use them as note-taking guides. When sources other than the text are used access to the relevant material will be posted to WebCT or made through library e-journals.

Prerequisites: Organic chemistry I & the lab. Genetics is highly recommended.

Course Description/Objectives: The course will be an introductory course on biochemistry focusing on the chemical components and reactions of living organisms. Discussions will include chemical structure, biosynthesis & metabolism of amino acids and proteins, carbohydrates, nucleic acids, and lipids and regulation of the processes.
Students will be expected to show a thorough grasp of the critical elements of biochemistry by responding accurately to questions of fact about details of the structures, reactions, metabolism, and regulation of chemical components and processes of the cell. Understanding of quantitative concepts presented in class (eg: thermodynamics, kinetics) and the solution of problems will be tested.

Grading: 4 exams; course grade will be average of 3 highest exam grades:
Any missed exam will count as lowest exam grade
Exam schedule: (Subject to change by the lecturer if necessary)
Exam 1: Sep 13
Exam 2: Oct 9
Exam 3: Nov 1
Exam 4: Dec 6 (Thu), 10:30

Exams will consist of multiple choice, True/False, matching, problems, fill in the blank, one essay question, and will include figures presented in class. Exam 4 is not comprehensive. Students are expected to take exams during the scheduled date and time. Makeup exams are at the discretion of the instructor and will be allowed only when **serious** circumstances intervene and documentation is provided. The makeup exam will be an essay exam and will be substantially different from the scheduled exam. Students will be responsible for retaining graded material once it is returned in order to reconstruct the grade book in the event of an emergency.
Drop day is Tuesday, Oct 23.

The student code of conduct will apply to this course.

Class Schedule (subject to change by lecturer if necessary)

		Chapter
(8/23)	Introduction, chemical foundations & water	1-2
(8/28, 8/30)	Amino acids & peptides	3
(9/4)	Protein secondary structure	4
(9/6)	Protein tertiary structure	4
(9/11)	Protein function	5
(9/13)	**Exam I**	
(9/18)	Enzyme kinetics	6
(9/20)	Enzyme mechanisms	6
(9/25)	Carbohydrates	7
(9/27)	Nucleotides	8
(10/02)	Lipids & membranes	10-11
(10/04)	Bioenergetics	13
(10/09)	**Exam 2**	
(10/11, 10/16)	Glycolysis	14
(10/18)	Fermentation. gluconeogenesis & Pentose phosphate pathway	14
(10/23)	Regulating carbohydrate catabolism	12 & 15
(10/25)	Citric Acid Cycle	16
(10/30)	Fatty Acid Catabolism	17
(11/1)	**Exam 3**	
(11/6)	Fatty Acid Catabolism	17
(11/8)	Amino Acid Oxidation	18
(11/13)	Oxidative Phosphorylation	19
(11/15)	Photosynthesis	19
(11/20)	Carbohydrate Biosynthesis	20
(11/22-23)	**Thanksgiving**	
(11/27)	Lipid Biosynthesis	21
(11/29)	Amino Acid & Nucleotide Biosynthesis	22
(12/3-4)	Dead Days	
(12/6; 10:30-12:30)	**Exam 4**	