Biochemistry 205 Syllabus – Fall 2011

Fall 2011
MWF 10:40 – 11:30 a.m.
Angell B112

Instructor: Robert Hondal, Ph.D., Department of Biochemistry. Given Building, B413. Phone: 656-8282. Email: Robert.Hondal@uvm.edu My office hours will be from 3 – 5 p.m. M-F.

Teaching Assistants: Gregg Snider, email: gsnider@uvm.edu and Brittany Todd, email: bltodd@uvm.edu. Officer hours will be Mon, Wed, Fri, from 9 a.m. to 10:30 a.m. in Given B420 (right across from my own office).

Course Description: This course describes the chemistry of amino acids, proteins, carbohydrates and lipids. Special emphasis is placed on bioenergetics and metabolic processes such as glycolysis, the citric acid cycle, and oxidative phosphorylation.

Prerequisites: 2 semesters of organic chemistry (CHEM 141/143 and CHEM 142/144)

Course Text: "*Biochemistry 4th edition*" Garret and Grisham, Brooks/Cole Publishing 2010. A student solutions manual is also available. You can purchase this through Amazon.com.

Quizzes: There will be a daily quiz in the course starting with the first lecture on August 31st. When you enter the classroom, you will pick up a 3 x 5 note card (provided by me) and write your name and date on the card. When I begin class, I will put a question on the board in which you will have **3 minutes** to write the answer on the note card. The quizzes will emphasize structures, but I will also ask questions from the previous lecture. The quiz will **BEGIN** at the start of class. If you are late to class, you will not be able to take the quiz.

Attendance: Attendance will be taken based on the quizzes that you hand in. Students who miss none or one class during the semester will be given a 0.5% bonus towards your final grade. If you miss more than one class (based on quizzes) you will not receive the bonus.

Recitation/Exam Hour: There is a recitation that is associated with the registration of this course at 7:00 p.m. to 9:45 p.m. on Tuesday's. The TA will lead this recitation every Tuesday to go over the previous week's quizzes, go over assigned chapter problems, and give a test quiz on the previous weeks material. The goal is to help you learn the material. Recitations will be held in Given C447. If attendance is too large for the room, we will move to Lafayette 108. You do not have to attend the recitation. However, you do have to attend the exam scheduled at this time since it is scheduled through the Registrar. The ONLY exceptions will be for students with a UVM scheduled conflict (for example an athletic event). If you have another exam scheduled at this time, you will have to make arrangements with the instructor of that class as this time is scheduled through the registrar. If you have an emergency or other extreme situation, you need to contact me.

Grading:

Quizzes = 8%
Exam 1 = 18%
Exam 2 = 21%
Exam 3 = 25%
Final = 28%
Total = 100%

Each exam will be cumulative. This means that on Exam 2, I can go back and ask you something from the material related to Exam 1. On the third exam, I will be able to ask you about something we covered from the material related to Exams 1 and 2. The final exam is cumulative. After the exams are graded you will have ONE week to contest the grading or scoring of a question.

Grading Distribution:

97% - 100%	= A+
93% - 96%	= A
89% - 92%	= A-
85% - 88%	= B+
81% - 84%	= B
77% - 80%	= B-
73% - 76%	= C+
69% - 72%	= C
65% - 68%	= C-
61% - 64%	= D+
57% - 60%	= D
53% - 56%	= D-
52%	= F

Note on Grading: The College of Arts and Sciences guidelines call for a 3.33% allotment to each grade bracket. Using those guidelines an A+ would be 96.66% to 100%, an A would be 93.33% to 96.65%, etc. I have made my grading system based on a 4% bracket. However, I reserve the right to adjust an *individual* bracket +/- 2% based on the final distribution. The most likely scenario would be a **downward** adjustment of 1%. This adjustment will be based upon breaks in groups of student grades between each bracket. For example, if there were only a few students in the 93 – 96% bracket and 15 students closely grouped between 90.6 and 92.4%, then the new "A" would be 90.6 to 95%.

University Student-Athlete Policy: "Students participating in intercollegiate athletics should plan their schedules with special care, recognizing the primary importance of all of their university academic responsibilities. Each semester, members of UVM varsity and junior varsity teams are responsible for submitting their planned schedule of athletic competitions in writing to their instructors by the end of the second full week of classes. Students and instructors should then discuss potential conflicts between course requirements and intercollegiate competitions. When an unavoidable conflict exists, the student and instructor should seek a resolution which permits the student to address the course requirement and participate in the athletic competition. The instructor has final authority on this matter."

Academic Integrity: All students should read The University of Vermont's Code on Academic Integrity. This Code is available as a PDF file at the following web address: www.uvm.edu/policies/student/acadintegrity.pdf

Please take the time to read this policy. I will be following this policy strictly when dealing with cases of academic misconduct.

Religious Holidays: The following statement is the University's policy on religious holidays: "Students have the right to practice the religion of their choice. Each semester students should submit in writing to their instructors by the end of the second full week of classes their documented religious holiday schedule for the semester. Faculty must permit students who miss work for the purpose of religious observance to make up this work."

Medical Disability: Students with a medical disability that will necessitate in a longer exam period should see me during the first week of class.

Class Motto: "Spectacular achievements are always preceded by unspectacular preparation." – Roger Staubach

Alternative Motto: "Wake me up inside" – Evanescence

Last Year's Motto: "Every passion has its destiny." Billy Mills

Date	Lecture	Topic
8-29		Introduction and Overview
8-31	1	The elements of life – Chapter 1 and notes
9-2	2	Cell basics – Chapter 1
9-5	**Labor Day – No Class**	
9-7	3	Water, pH, and pKa – Chapter 2
9-9	4	Buffers – Chapter 2
9-12	5	Thermodynamics of Biochemistry - Ch. 3
9-12	**Add/Drop, Pass/No Pass, Audit Deadline**	
9-14	6	Thermodynamics of Biochemistry - Ch. 3
9-16	7	Amino Acids and Peptides – Chapter 4
9-19	8	Amino Acids and Peptides – Chapter 4
9-21	9	Protein Architecture – Chs. 6 and 5
9-23	10	Protein Architecture – Chs. 6 and 5
9-26	11	Protein Architecture/Folding – Chs. 5 and 6
9-27	**Exam 1 (covers lectures 1-10) 7-9 p.m. in Lafayette 108**	
9-28	12	Protein techniques – Chapter 5
9-30	13	Protein techniques – Chapter 5
10-3	14	Enzymes and Kinetics – Chapter 13
10-5	15	Enzymes and Kinetics – Chapter 13
10-7	16	Enzymes and Kinetics – Chapter 13
10-10	17	Enzyme Mechanism – Chapter 14
10-12	18	Enzyme Mechanism – Chapter 14
10-14	19	Cofactors and Coenzymes
10-17	20	Enzyme Regulation – Chapter 15
10-19	21	Enzyme Regulation – Chapter 15
10-21	22	Carbohydrates – Chapter 7, sections 1-3
10-24	23	Lipids – Chapter 8
10-25	**Exam 2 (covers lectures 11-21) 7-9 p.m. in Lafayette 108**	
10-26	24	Lipids – Chapter 8
10-28	25	Nucleotides and Nucleic Acids Ch. 10 (1-5)
10-31	26	Nucleotides and Nucleic Acids Ch. 10 (1-5)
10-31	**Last Day to Withdraw (receive a W)**	
10-29	27	Introduction to Metabolism – Chapter 17
11-2	28	Introduction to Metabolism – Chapter 17
11-4	29	Glycolysis – Chapter 18
11-7	30	Glycolysis – Chapter 18
11-9	31	Glycolysis – Chapter 18
11-11	32	TCA cycle – Chapter 19
11-14	33	TCA cycle – Chapter 19
11-15	**Exam 3 (covers lectures 22-31) 7-9 p.m. in Lafayette 108**	
11-16	34	TCA cycle – Chapter 19
11-18	35	TCA cycle – Chapter 19
11-21	**Thanksgiving Break**	

11-23	**Thanksgiving Break**	
11-25	**Thanksgiving Break**	
11-28	36	Oxidative Phosphorylation – Chapter 20
11-30	37	Oxidative Phosphorylation – Chapter 20
12-2	38	Oxidative Phosphorylation – Chapter 20
12-5	39	Oxidative Phosphorylation – Chapter 20
12-7	40	Photosynthesis (time allowing or special topic). Photosynthesis is covered in Chapter 21
12-12	**Final Exam 7:30 a.m. – 10:15 a.m. in Lafayette 108 (emphasizes lectures 32-40, but is cumulative)**	

The schedule above is subject to change.

Assigned Problems:

Chapter	**Problems**
1	2, 3, 4, 7, 8, 9, 10
2	1, 3, 4, 5, 6, 8, 10, 14, 17, 22
3	1,3, 5, 6, 8, 10, 13, 15, 19
4	2-9, 13, 15, 16, 18, 19
5	1, 2, 3, 4, 5, 6,
6	3, 4, 8, 10, 11, 16
7	1, 4, 5, 6
8	2, 3, 5, 6
10	1-5
13	1-5, 7, 9, 10, 11, 12
14	1, 3, 5, 9, 10, 11
15	2, 5, 8, 10, 12
17	1-9, 12, 15,
18	1-5, 7-13, 15-17, 19
19	1, 4, 7, 9, 10, 16, 17
20	1, 2, 4, 6, 8, 10, 12-18