SPRING SEMESTER 2011
SURVEY IN BIOCHEMISTRY
CHEMISTRY 361

INSTRUCTORS: Drs. Ken Olsen and Miguel Ballicora, lecturers,
Ms. Agnes Orlof, discussion leader
TIME AND LOCATION: LECTURE: T-TH 1:00-2:15pm, Flanner Auditorium
DISCUSSION: M at 2:45 in MC-418, Tu at 8:30 in FH-007, Th 8:30 in CS-207, F 2:45 in MC-514
REQUIRED TEXTS: Berg, Tymoczko, and Stryer (2006) *Biochemistry*, 6th ed., and Gumport et al. (2006) *Student Companion to Accompany Biochemistry*, 6th ed.

TENTATIVE SCHEDULE OF LECTURES AND EXAMINATIONS

Lecture#	Day	Date	Topics from Berg *et al*..	Chapter	Lecturer
1	T	1/18	Introduction & Genomic Revolution	1	KWO
2	Th	1/20	Water and pH, Amino Acids	1,2	KWO
3	T	1/25	Protein Structure	2	KWO
4	Th	1/27	Exploring Proteins	3	KWO
5	T	2/1	Hemoglobin	7	KWO
6	Th	2/3	Flow of Genetic Information	4	KWO
7	T	2/8	Exploring Genes	5	KWO
8	**Th**	**2/10**	**Examination I - Chapters 1-5, 7**		**KWO**
9	T	2/15	Enzyme Kinetics	8	MAB
10	Th	2/17	Enzyme Inhibition	8	MAB
11	T	2/22	Enzyme Mechanisms & Allosterism	9,10	MAB
12	Th	2/24	Carbohydrates	11	MAB
13	T	3/1	Lipids & Membranes	12	MAB
14	Th	3/3	Channels & Pumps	13	MAB
	T,Th 3/7-3/11		**Spring Break**		
15	T	3/15	Signal Transduction	14	MAB
16	Th	3/17	Bioenergetics	15	MAB
17	**T**	**3/22**	**Examination #2- Chapters 8 – 15**		**MAB**
18	Th	3/24	Glycolysis	16	KWO
19	T	3/29	Gluconeogenesis	16	KWO
20	Th	3/31	Citric Acid Cycle	17	KWO
21	T	4/5	Oxidative Phosphorylation	18	KWO
22	Th	4/7	Oxidative Phosphorylation	18	KWO
23	T	4/12	Pentose Pathway & Photosynthesis	20	MAB
24	Th	4/14	Glycogen Metabolism	21	MAB
25	T	4/19	Fatty Acid Metabolism	22	MAB
26	Th	4/21	Amino Acid Metabolism	23 & 24	MAB
27	T	4/26	Biosynthesis of Nucleotides and Lipids	25 & 26	MAB
28	Th	4/28	Integration of Metabolism	27	KWO
	F	5/6	**Final Examination (1:00 pm - 3:00 pm): (60% Chapters 16-18, 20-27; and 40% Chapters 1-5, 7, and 8 B 15)**		

EXAMINATION AND GRADING PROCEDURES AND POLICY

This Biochemistry course employs either multiple choice or essay or both formats for testing. Three major lecture examinations will be administered during this spring session. The discussion sections, quizzes and other assignments are worth 20% of the grade. The first two examinations are worth 25% apiece, while the cumulative final examination represents 30%. An alternative grading scheme, in which the lowest test grade is dropped and the final examination counts 55% of the grade, will also be calculated. You will get the better of the two possible grades. The four grades will be combined into one final % grade, which will be measured using the following scale:

A = 100-85
A- = 84-83
B+ = 82-80
B = 79-74
B- = 73-72
C+ = 71-70
C = 69-55
C- = 54-50
D+ = 49-45
D = 44-40
F = Less than 40

Active participation in your Discussion session throughout the entire semester may be beneficial in two ways. First it will provide information on problem solving. Second, with the online quizzes and assignments that are associated with them, they count 20% of the final grade. There will be group work problems and very short online quizzes that will make up the discussion grades. The discussion sections themselves will count 8% of the final grade and the online quizzes will be 12%. Dr. Ballicora, Dr. Olsen and Ms. Orlof will conduct the discussion sections. There will be a total of 12 online quizzes – one for each of the 11 discussions and one on pH problems. The lowest two quizzes will be dropped. If you miss one or two quizzes for any reason, they will be the ones dropped. If you miss more than two of the quizzes, then those will be assigned a grade of zero.

Makeup examinations will **not** be given. If you miss one of the two examinations your grade will be determined counting the final examination 55% of the total grade. If you missed both the examinations you will probably be asked to drop the course. If you miss the final examination, a makeup examinations will be given at our discretion. Minimally, a **written** doctor's or judge's excuse and **notification prior to the examination** will be needed by the appropriate Instructor. **NO EXCEPTIONS WILL BE MADE!**

Office Hours:

Dr. Olsen T-Th 2:30-4 PM.
Dr. Ballicora T-Th 2:30-4 PM
Ms. Orlof will meet with students during the regularly scheduled discussion sections. Their office locations, telephone numbers, and e-mail addresses are:
Dr. K. W. Olsen, Flanner Hall-409, (773) 508-3121 kolsen@luc.edu
Dr. M. A. Ballicora, Flanner Hall-405, (773) 508-3154 mballic@luc.edu

Ms. A. Orlof, aorlof@luc.edu

If you are unable to contact the Instructor directly, or by voice or e-mail, you may leave your message with the Chemistry Departmental Office, (773) 508-3100.

Independent Effort

Finally, as a pre-professional student at Loyola University Chicago, it should be obvious at this stage of your career that all answers on examinations must arise from independent, honest efforts. Nothing less is acceptable in the Land of Lincoln. Thus, any student found to be cheating on any examination will receive an automatic "0" for that examination, and his (her) name will be brought to the attention of Dr. Richard Holz, the Chairperson of the Chemistry Department, as well as to the Dean of the College of Arts and Sciences, who will decide whether further disciplinary action is necessary. Together, we encourage you to become the best that you can be, and will work with you to achieve that goal. To this end, we wish you every success!!!

Blackboard and Lecture Notes

The Instructors plan to use Blackboard to distribute lecture notes and slides. The web address for this site is found at Loyola's homepage. Go to "Loyola links" and then click on "Blackboard." Blackboard will ask for your universal ID and password and once these have been correctly entered, Blackboard will list all of those courses for which you are enrolled and for which a Blackboard course exists. Chemistry 361 or Biology 366 should be one of those courses. We will make every effort to have the materials that are to be posted on the site at least a day before the lecture so that you can print them and bring them to class. A word of foreknowledge is that the PowerPoint presentations can be quite large (on the order of megabytes) and hence, if one does not have a high-speed internet connection at home, one should consider using Loyola's computer resources to download the materials.

Error Policy

The instructors reserve the right to amend or correct this syllabus.

Discussion Topics

There will be no Discussion Sections on the following dates:
Tuesday, 1/18
Friday, 3/4
Thursday, 4/21

There will be several "free" discussion sessions scheduled before examinations. Any student from any discussion section can attend these sessions and ask questions. The "free" discussion sessions are not count towards your grade. The dates for the "free" discussions will be:
Thursday, 2/10
Monday, 3/21
Tuesday, 3/22
Thursday, 4/28
Friday, 4/29

The regular discussions will be POGIL (Process Oriented Guided Inquiry Learning) style discussions sessions. The dates and general topics are given below:

Session	Topic
1	Protein structure – Th 1/20, F 1/21, M 1/24, Tu 1/25
2	Hemoglobin – Th 1/27, F 1/28, M 1/31, Tu 2/1
3	Genetic Information Flow – Th 2/3, F 2/4, M 2/7, Tu 2/8
4	Enzyme Kinetics – F 2/11, M 2/14, Tu 2/15, Th 2/17
5	Allosteric Enzyme Kinetics – F 2/18, M 2/21, Tu 2/22, Th 2/24
6	Membranes – F 2/25, M 2/28, Tu 3/1, Th 3/3
	Spring Break
7	Signal Transduction or Bioenergentics – M 3/14, Tu 3/15, Th 3/17, F 3/18
8	Glycolysis & Gluconeogenesis – Th 3/24, F 3/25, M 3/28, Tu 3/29
9	TCA & OxPhos - Th 3/31, F 4/1, M 4/4, Tu 4/5
10	Metabolic Control – Th 4/7, F 4/8, M 4/ 11, Tu 4/12
11	Integration of Metabolism – Th 4/14, F 4/15, M 4/18, Tu 4/19

Online Quizzes

There will be a total of 12 online quizzes. Eleven of these will be on the discussion topics and one will be on pH problems. **Except for the pH quiz and M 3/21**, all of the quizzes will be done on the Wednesday after the last discussion section for that topic. The dates are listed below.

Quiz	Topic
1	Protein structure – W 1/26
2	**pH problems – M 1/31**
3	Hemoglobin – W 2/2
4	Genetic Information Flow – W 2/9
5	Enzyme Kinetics – W 2/23
6	Allosteric Enzyme Kinetics – W 3/2
Spring Break	
7	Membranes – W 3/16
8	Signal Transduction or Bioenergentics – 3/21 – NOTE: Monday, not Wednesday
9	Glycolysis & Gluconeogenesis – W 3/30
10	TCA & OxPhos – W 4/6
11	Metabolic Control – W 4/13
12	Integration of Metabolism – W 4/20

Honors and Graduate Students Taking Chem 461

Honors Students and graduate students taking Chem 461 will be required to study Chapter 6 on their own, come to one-time discussion of that material with Drs. Ballicora and Olsen and complete a molecular modeling assignment.