

**SPRING SEMESTER 2016
BIOCHEMISTRY
CHEMISTRY 361**

INSTRUCTORS: Drs. Ken Olsen

TIME AND LOCATION: LECTURE: T-TH 8:30 – 9:45 AM. Cudahy Hall 207

DISCUSSION: M 10:25 – 11:15 and M 11:30-12:20 in Flanner Hall 105

REQUIRED TEXTS: Appling, Anthony-Cahill & Mathews, *Biochemistry: Concepts and Connections* (Pearson)

TENTATIVE SCHEDULE OF LECTURES AND EXAMINATIONS

Lecture#	Day	Date	Topics from Appling <i>et al.</i>	Chapter
1	T	1/19	Introduction	1
2	Th	1/21	Water and pH, Amino Acids	2
3	T	1/26	Bioenergetics	3
4	Th	1/28	Nucleic Acids	4
5	T	2/2	Proteins: Amino Acids & Sequence	5
6	Th	2/4	Proteins: 3D Structure	6
7	T	2/9	Tools of Biochemistry	5 & 6
8	Th	2/11	Examination I - Chapters 1-6	
9	T	2/16	Protein Function & Evolution	7
10	Th	2/18	Protein Function & Evolution	7
11	T	2/23	Enzyme Kinetics & Inhibition	8
12	Th	2/25	Enzyme Mechanisms & Allosterism	8
13	T	3/1	Carbohydrates	9
14	Th	3/3	Lipids & Membranes	10
	T, Th	3/7-3/11	Spring Break	
15	T	3/15	Membrane Transport	10
16	Th	3/17	Chemical Logic of Metabolism	11
17	T	3/22	Examination 2- Chapters 7 – 11	
18	Th	3/24	Easter	
19	T	3/29	Signal Transduction	20
20	Th	3/31	Carbohydrate Metabolism	12
21	T	4/5	Carbohydrate Metabolism	12
22	Th	4/7	Carbohydrate Metabolism & TCA	12 & 13
23	T	4/12	Citric Acid Cycle	13
24	Th	4/14	Oxidative Phosphorylation	14
25	T	4/19	Lipid Metabolism	16
26	Th	4/21	Amino Acid Metabolism	18
27	T	4/26	Biosynthesis of Nucleotides and Lipids	19
28	Th	4/28	Integration of Metabolism	17
	Sat	5/7	Final Examination (9:00 – 11:00 am): (75% Chapters 12 – 20 (except 15); and 25% Chapters 1-11)	

EXAMINATION AND GRADING PROCEDURES AND POLICY

This Biochemistry course employs multiple choice format for testing. Two major lecture examinations will be administered during this spring session. The discussion sections, quizzes and online homework taken together are worth 100 points. The first two examinations are worth 100 points apiece, while the cumulative final examination represents 200 points. 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, the quizzes and assignments that are associated with them along with the homework is worth 100 points towards the final grade. There will be group work problems and 3 short quizzes during the discussions. The discussion sections themselves will count 25 points towards the final grade and the quizzes will be worth 50 points. There will be a total of 3 quizzes. The lowest quiz will be dropped. If you miss one quizzes for any reason, it will be the one dropped. If you miss more than one of the quizzes, then those will be assigned a grade of zero. The online homework (Mastering) will be worth 25 points.

Makeup examinations will **not** be given. If you miss one of the two examinations your grade will be determined counting the final examination 300 points. If you missed both the examinations you will probably be advised to drop the course since that would indicate that you missed most of the material. If you miss the final examination, a makeup examinations will be given at my discretion. Minimally, a **written** doctor's or judge's excuse and **notification prior to the examination** will be needed by the Instructor. **NO EXCEPTIONS WILL BE MADE!**

The course will be graded on a curve with the average grade in the class set to a C+. The current curve will be given to the class after each of the test. Tests will be handed back in class with current overall grades on them as well as the test grade. If you ever have any question about your grade, please contact the instructor.

Office Hours:

Dr. K. W. Olsen T-Th 10-11 AM. Flanner Hall-409, (773) 508-3121 kolsen@luc.edu

If you are unable to contact me 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. Duarte Freitas, 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.

Sakai and Lecture Notes

The Instructors plan to use Sakai 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 "Sakai." Sakai will ask for your

universal ID and password and once these have been correctly entered, Sakai will list all of those courses for which you are enrolled and for which a Sakai course exists. Chemistry 361 should be one of those courses. I 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 or download them and bring them to class. The PowerPoint presentations can be quite large (on the order of megabytes) and hence, if you do not have a high-speed internet connection at home, you should consider using Loyola's computer resources to download the materials.

Error Policy

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

Discussion Topics

There will be no Discussion Sections on the following dates: 1/19, 3/7 and 3/28

<u>Session</u>	<u>Date</u>	<u>Topic</u>
1	1/25	pH problems
2	2/1	Quiz on pH problems, bioenergetics and nucleic acids
3	2/8	Open discussion to review for Exam 1
4	2/15	Proteins
5	2/22	Hemoglobin
6	2/29	Enzyme kinetics
7	3/14	Quiz – proteins and enzymes
8	3/21	Open discussion to review for Exam 2
9	4/4	Signal Transduction & Metabolism
10	4/11	Carbohydrate Metabolism
11	4/18	TCA & OxPhos
12	4/25	Quiz – metabolism

Honors and Graduate Students Taking Chem 461

Honors Students and graduate students taking Chem 461 will be required to complete a molecular modeling assignment. See Dr. Olsen for instructions.