

**Chemistry 370**  
**Biochemistry**  
**Fall 2012**

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Lectures: 1:40- 2:30 pm on MWF in Cuneo Hall 002  
Discussions: Wed 10:25 – 11:15 am in Mundelein Center 403  
Fri 10:25 – 11:15 am in Dumbach Hall 228

**TENTATIVE SCHEDULE OF LECTURES AND QUIZZES**

#	Day	Date	Subject	Chapters
1	M	8/27	Introduction & Biomolecules	1
2	W	8/29	Water & pH	1
3	F	8/31	Water & pH	1
4	M	9/3	Labor Day – no class	
5	W	9/5	Amino Acids, Peptides and Proteins	2
6	F	9/7	Amino Acids, Peptides and Proteins	2
7	M	9/10	Exploring Proteins	3
8	W	9/12	Exploring Proteins	3
9	F	9/14	Flow of Genetic Information	4
10	M	9/17	Genetic Code	4
11	W	9/19	Exploring Genes	5
12	F	9/21	Exploring Genes	5
13	M	9/24	Test 1	1 – 5
14	W	9/26	Evolution & Bioinformatics	6
15	F	9/28	Evolution & Bioinformatics	6
16	M	10/1	Hemoglobin	7
17	W	10/3	Hemoglobin	7
18	F	10/5	Enzymes: Basic Concepts & Kinetics	8
19	M	10/8	Fall Break – no class	
20	W	10/10	Enzymes: Basic Concepts & Kinetics	8
21	F	10/12	Enzymes: Catalytic Strategies	9
	Sat	10/13	Midwest Enzyme Chemistry Conference at UIC	
22	M	10/15	Enzymes: Catalytic Strategies	9
23	W	10/17	Regulation: Enzymes	10
24	F	10/19	Regulation: Enzymes	10
25	M	10/22	Test 2	6 – 10
26	W	10/24	Carbohydrates	11
27	F	10/26	Lipids and Membranes	12
28	M	10/29	Lipids and Membranes	12
29	W	10/31	Channels and Pumps	13
30	F	11/2	Channels and Pumps	13

31	M	11/5	Signal Transduction	14
32	W	11/7	Signal Transduction	14
33	F	11/9	Signal Transduction	14
34	M	11/12	Test 3	11 – 15
35	W	11/14	Metabolism and Bioenergetics	15
36	F	11/16	Glycolysis and Gluconeogenesis	16
37	M	11/19	Glycolysis and Gluconeogenesis	16
38	W	11/21	Thanksgiving Break – no class	
39	F	11/23	Thanksgiving Break – no class	
40	M	11/26	Glycolysis and Gluconeogenesis	16
41	W	11/28	Citric Acid Cycle	17
42	F	11/30	Citric Acid Cycle	17
43	M	12/3	Oxidative Phosphorylation	18
44	W	12/5	Oxidative Phosphorylation	18
45	F	12/7	Summary	27
	M	12/17	1-3 pm          Final Examination	16-18 & 27 plus 1-15

**Required Text:** Berg, Tymoczko and Stryer, *Biochemistry*, 7<sup>th</sup> Ed.

You should read the appropriate chapter **before** class. Please realize that I will not have time to lecture on every topic but will emphasize what I consider to be the most important topics. Obviously, these more important topics will be emphasized on examinations but you are responsible for all of the text, lecture and discussion material.

**Recommended Text:** Deis, et al. (2011) 7<sup>th</sup> edition, *Student Companion to Accompany Biochemistry*.

**Office Hours:** During the hour after any lecture or discussion.

**Grading Policy:** There are 3 tests and a final examination during the course. There will be 100 points possible on each test and 200 on the final. The final examination will be 25% on new material and 75% on the material covered in Tests 1 to 3. If one of the regular examinations is the lowest score, it will be dropped and the final will count 200 points. If the final examination is the lowest score, then all five examinations will count 100 points each. In addition there will be homework problems worth at total of 50 points that will be graded only on the basis of being honestly attempted and turned in on time. You may work these problems in groups but I would like written answers from each you individually. Finally, there will be an additional 50 points assigned to the discussion sections. This will be graded on participation in the Discussion Section activities. Thus the course grade will be determined on the basis of 500 possible points. No make-up tests will be given. If you miss a test for any reason, then your final will automatically count 200 points. If you miss more than one test a make-up examination will be given at my discretion. Minimally, a written doctor's or judge's note and notification prior to the

quiz (via phone or e-mail) will be needed for any missed test to be made up.

Note that the last day to withdraw from the course without getting a WF is Friday, Nov. 2.

It should be obvious that all answers on examinations must arise from independent, honest efforts. Nothing less is acceptable at Loyola. Thus, any student found cheating on any quiz will receive an automatic "0" for F at examination and his (her) name will be brought to the attention of the Chair of the Department and the Dean of the College, who will decide if further disciplinary action is necessary.

**Blackboard:** I plan to use the Blackboard website ([blackboard.luc.edu](http://blackboard.luc.edu)) for all class notes and announcements. Please ask me for a handout for instructions on how to use this site if you are not already familiar with it. It is essential that you access the site regularly to do well in this class.

**Help Sessions:** I will be available for the hour before each exam to answer last minute questions you have on the material. These help sessions will be held in the lecture room unless it is occupied by another class. This is in addition to the regular office hours.

### **Discussion Activities:**

There will be an opportunity in all discussion sections for you to ask questions but most of these sections (except the ones the week before a test) will have activities planned for them. The discussions will be on Wednesdays and Fridays at 10:25 am. You should attend the one that you are registered for.

Week	Dates	Activity
1	8/29 & 8/31	No discussion
2	9/5 & 9/7	Complex pH problems
3	9/12 & 9/14	VMD – molecular graphics – bring your laptop if you have one
4	9/19 & 9/21	Prep for test 1
5	9/26 & 9/28	VMD -protein structure – bring your laptop if you have one
6	10/3 & 10/5	Enzyme Games
7	10/10 & 10/12	Enzyme Games
8	10/17 & 10/19	Prep for test 2
9	10/24 & 10/26	Comparative Modeling
10	10/31 & 11/2	Comparative Modeling
11	11/7 & 11/9	Prep for test 3
12	11/14 & 11/16	Prep for the debate
13	11/21 & 11/23	Thanksgiving break – no class
14	11/28 & 11/30	The Debate
15	12/5 & 12/7	Prep for final exam

**Problem Due Dates: Assignments are due at the beginning of class.**

Problem Set	Due Date	Topic
1	9/5	pH problems
2	9/12	amino acids and proteins
3	9/19	amino acid sequence problems
4	9/26	genes
5	10/3	hemoglobin
6	10/10	enzyme kinetics
7	10/19	enzyme catalysis
8	10/26	enzyme regulation
9	10/31	carbohydrates, lipids and membranes
10	11/7	membranes, channels and pumps
11	11/14	signal transduction
12	11/21	Thanksgiving – no problems
13	11/28	glycolysis & gluconeogenesis
14	12/5	citric acid cycle & ox-phos