Syllabus Chem361-001: Biochemistry Survey

Instructor:	Dali Liu, Ph.D.	
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Office Hours:	Th	10:30-12:30 PM or by appointment.
Lecture:	MWF	2:45-3:35 PM, Cuneo Hall 109
Discussion:	W	10:25-11:15 AM, Flanner Hall Room 105 for 361-002
	W	1:40-2:30 AM, Flanner Hall Room 7 for 361-002
Text Book:	Biochemistry 9th Campbell & Farrell	

This Biochemistry survey class will provide fundamental learning experience focusing on Protein Structure and Function, Enzymology and Metabolism. The contents concerning Molecular Biology and Genetics including Chapters **9-14** will not be covered in detail if at all.

Schedule of Lectures (*The schedule may be slightly modified during the course of the year):

Day	Date	Topic	Chapter
Sector I: Aqueous Environment and Protein			
M	8/27	A Chemical View of Life/Water	1/2
W	8/29	Water: The Solvent of Biochemical Reactions	2
F	8/31	Amino Acids and Peptides	3
M	9/3	Labor Day	
W	9/5	Amino Acids and Peptides	3
F	9/7	Three-Dimensional Structure of Protein	4
M	9/10	Three-Dimensional Structure of Protein	4
W	9/12	Protein Purification and Characterization Techniques	5
F	9/14	Protein Purification and Characterization Techniques	5
M	9/17	Review for Test 1	1-5
W	9/19	Test 1	1-5
Sector II: Catalysis in the Cell			
F	9/21	Enzymes	6
M	9/24	Enzymes	6
W	9/26	Enzymes, Mechanisms and Control	7
F	9/28	Enzymes, Mechanisms and Control	7
M	10/1	Biological Membrane	8
W	10/3	Biological Membrane	8
F	10/5	Energy Changes and Electron Transfer	15
M	10/8	Mid Semester Break	
W	10/10	Review for Test 2	6-8, 15
F	10/12	Test 2	6-8, 15
Sector III: Carbohydrate Metabolism			
M	10/15	Carbohydrates	16
W	10/17	Carbohydrates /Glycolysis	16/17
F	10/19	Glycolysis	17
M	10/22	Storage and Control in Carbohydrate Metabolism	18

Day	Date	Topic	Chapter
W	10/24	The Citric Acid Cycle	19
F	10/26	The Citric Acid Cycle	19
M	10/29	Electron Transport and Oxidative Phosphorylation	20
W	10/31	Electron Transport and Oxidative Phosphorylation	20
F	11/2	Review for Test 3	16-20
M	11/5	Test 3	16-20

Sector IV: Metabolisms, Regulation and Biomedicine

W	11/7	Lipid Metabolism		22
F	11/9		22	
M	11/12		21	
W	11/14	Lipid Metabolism	21	
F	11/16	The Metabolism of Nitrogen	23	
M	11/19	The Metabolism of Nitrogen	23	
WF	11/21 & 23	Thanksgivings		
W	11/26	Integration of Metabolism: Cell Signaling	24	
F	11/28	Integration of Metabolism: Cell Signaling	24	
M	11/30			
M	12/3			
W	12/5	Comprehensive Review I		
F	12/7	Comprehensive Review II		

F 12/14 Final 4:15 PM- 6:15 PM

Grading Policy: There are 3 tests and 1 final examination during the course. There will be 100 points possible on each of the three 50-minute tests. There will be 200 possible points on the 2-hour final. The final examination will be comprehensive. If the final counts 200 in total, then the lowest score of the first three will be dropped. Alternately, the final can be scaled back to 100 while keep the first three scores in your total score. Either way the highest possible total will be 400.

The letter grade will be determined by **strictly and precisely** using the following scale:

A	360-400
A-	340-359
B+	320-339
B	300-319
B-	280-299
C+	260-279
C	240-259
C-	220-239
D	200-219
F	<200

Please arrange all in-semester travels to avoid the four exam dates. There will be NO make-up exam if you miss it. Exam dates cannot be moved ahead of schedule for individuals either. All true emergencies, such us severe weather and family death will need written proof for special consideration.

Academic Integrity All answers on examinations must arise from independent, honest efforts. Nothing less is acceptable at Loyola University Chicago. **Any student found cheating on any exam**

will receive an automatic "0" for the examination and that 0 cannot be dropped! The incident 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. Students should realize that the school misconduct record is **permanent!** During Test, the proctor will do whatever necessary to maintain proper order including moving students to new locations before or during the exam.

Classroom Behavior It is incumbent upon the students to maintain a professionalism and code of conduct appropriate with the course material and course enrollment. Rude, disruptive behavior (such as talking during lecture) will not be tolerated. While it is acceptable to use laptops or tablets for taking notes, using electronic device for reasons unrelated to class is not permitted. Students surfing Internet will be asked to leave the classroom. Video recording is not permitted.

Sakai The instructor will use the Sakai website (https://sakai.luc.edu/) for distribute class material and announcements. It is essential that you access the site regularly to do well in this class.

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

Discussion Activities:

Most of the discussion sessions will focus on problem solving, in addition to lecture review and course-related research topics. You should attend the one that you are registered for. The discussion material will be reflected in exams.

Week	Dates	Topic
1	8/29	pH and buffer
2	9/5	Amino Acids
3	9/12	Protein Structure
4	9/19	test 1 Q &A
5	9/26	Enzymology II
6	10/3	Energy in the cell
7	10/10	test 2 Q&A
8	10/17	Carbohydrates and Glycolysis
9	10/24	Citric Acid Cycle
10	10/31	Electron Transfer and Q&A
11	11/7	Photosynthesis and Alternative Energy
12	11/14	Lipid metabolism
	11/21	No Discussion Thanksgiving
13	11/28	Nitrogen Metabolism & Signal transduction
14	12/5	Trends in Biomedical Research