

**Chemistry 342: Biochemistry II**  
Winter Quarter 2003

**INSTRUCTOR:**           **Dr. Lihua Jin**  
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**Office Hours:** M/T/Th/F 12:00-1:00pm or by appointment  
(You can access my schedule through my Homepage in addition to Blackboard)

**TIME & LOCATION:** TTh 3:10-4:40 pm, Levan 302

**TEXTS:**                   **Required:**    *Lehninger Principles of Biochemistry* 3<sup>rd</sup> Ed., by David L. Nelson and Michael M. Cox., Worth Publishers, New York, 2000.  
**Recommended:** *The Absolute, Ultimate Guide to Lehninger Principles of Biochemistry 3<sup>rd</sup> Ed.: Study Guide and Solutions Manual*, by Marcy Osgood and Karen Ocorr, Worth Publishers, New York, 2000

**COURSE PURPOSE AND OBJECTIVES:**

Che342 is the second course (quarter) of a three-quarter sequence that introduces the students to modern biochemistry. This course is divided into two parts. The first part will be covering topics including membranes, membrane proteins, membrane transport, and signal transduction. The second part will be on metabolism and the emphasis will be on catabolism. The anabolic part of metabolism will be covered in Che344, the third quarter of this three-quarter sequence. Specific topics are listed in the Tentative Class Schedule. Specific course objectives will be given for each class throughout the quarter.

**CLASS FORMAT:**

We will be covering Chapters 12-19 of the Lehninger text. Classes will follow a lecture format with an emphasis on student's active participation. Applications to human physiology will be discussed as time and subject matter permit.

**COURSE EVALUATION:**

1. There will be **2 hour-exams**; each of the hour-exams will constitute **20%** of the course grade. Approximate letter grades A's, B's, and C's, etc., will be given for each hour exam.
2. There will be **3 quizzes**; the lowest quiz will be dropped. Each of the remaining 2 will constitute **10%** of the course grade. No letter grade will be given after each quiz.
3. Homework will be assigned for materials covered in each class, which will include mostly problems I write and as well as from the end of each chapter and the *Study Guide and Solution Manual*. Homework due dates are listed in the class schedule below. There will be a total of 17 homework assignments. Most of the due dates are on Tuesdays as listed in class schedule. Doing homework is an absolutely necessary step in learning and they will be collected and checked. Answers to some homework questions will be given. **Homework** finished and turned in **on time** contributes **8%** to the final course grade. Homework and other announcement will be posted also on blackboard. More information will be given in class about using blackboard.

4. All students must take a **comprehensive final exam**, which will constitute **30%** of the course grade. This exam will include materials on metabolism only, ~ 2/3 of the course materials.
5. The remaining **2%** of the final grade will come from active class participation. To earn the 2%, a minimum of **15** active class participation are needed, which is equivalent to ~ 1 check mark per class period. This requirement is made to encourage students to be an active participant in learning rather than a passive information receiver. According to educational research, when you use all of your senses and faculty in learning and are therefore emotionally involved in the learning process, you understand the materials better, retain information longer, and develop critical thinking and problem solving skills more effectively.

### **CLASS MATERIAL POSTING**

Class materials including PowerPoint Slides, homework assignments and answers as well as announcements will be posted on Blackboard. PowerPoint slides will be posted, if possible, late at night before the class date. Except for PowerPoint slides, other materials will also be sent through email.

### **POLICY ON MISSED QUIZZES/EXAMS AND LATE HOMEWORK**

**Exams:** If an exam is missed due to legitimate reasons such as illness and family emergency, the student will be allowed a chance to make up the exam only if he/she contacts the instructor either before or within two days after the exam. If an exam is missed due to reasons of **carelessness, no makeup exam** will be given.

**Quizzes:** No make up quizzes will be given for the first quiz missed and the missed quiz will be the drop quiz. In case a second quiz is missed for a legitimate reason, make up quiz will be given if the student contacts the instructor within two days of the quiz.

**Homework:** Late homework will receive half credit if handed in within a week of the due date and no credit if more than a week late.

### **ACADEMIC INTEGRITY:**

For the University's academic integrity policy, please go to <http://condor.depaul.edu/~handbook/code17.html>. Violation of academic integrity is a serious matter. Any student who gives or receives aids on exams will receive a **grade deduction of two levels** in the course, e.g., B to D.

**TENTATIVE CLASS SCHEDULE**

<b>Lecture</b>	<b>Date</b>	<b>Day</b>		<b>Applicable Chapters</b>
1	1/7	T	Course Introduction; Review on Membrane Lipids Special lipids; Membranes; <b>Homework 1 (HW 1)</b>	11&12
2	1/9	Th	Membranes and Membrane Proteins; <b>HW 2</b>	12
3	1/14	T	Membrane Transport; <b>HW 3; HW 1&amp;2 due</b>	12
4	1/16	Th	Membrane Transport; <b>HW 4</b>	12
<b>5</b>	<b>1/21</b>	<b>T</b>	<b>Quiz 1 (classes 1-4 materials)</b> Signal Transduction; <b>HW 5; HW 3&amp; 4 due</b>	13
6	1/23	Th	Signal Transduction; <b>HW6</b>	13
7	1/28	T	Signal Transduction; <b>HW 7; HW 5&amp;6 due</b>	<b>13</b>
8	1/30	Th	Bioenergetics; <b>HW 8</b>	14
<b>9</b>	<b>2/4</b>	<b>T</b>	<b>1<sup>ST</sup> HOUR EXAM (classes 1-7 materials)</b> <b>NO HW9! HW 7&amp;8 due</b>	
10	2/6	Th	Oxidation-Reduction Reactions; <b>HW 10</b>	14
11	2/11	T	Glycolysis; <b>HW 11; HW 10 due</b>	15
12	2/13	Th	Regulation of Glycolysis and Pentose Phosphate Pathway; <b>HW 12</b>	15
<b>13</b>	<b>2/18</b>	<b>T</b>	<b>Quiz 2 (classes 8, 10-12 materials)</b> Pyruvate Dehydrogenase and Citric Acid Cycle <b>HW 13; HW 11&amp;12 due</b>	16
14	2/20	Th	Regulation of Citric Acid Cycle and Glyoxylate Cycle; <b>HW 14</b>	16
15	2/25	T	Oxidation of Fatty Acids <b>HW 15; HW 13&amp;14 due</b>	17
16	2/27	Th	Amino Acid Oxidation & Urea Cycle; <b>HW 16</b>	18
<b>17</b>	<b>3/4</b>	<b>T</b>	<b>2<sup>nd</sup> HOUR EXAM (Classes 8-15 materials)</b> <b>NO HW17! HW15 &amp;16 due</b>	
18	3/6	Th	Electron Transport & Oxidative Phosphorylation <b>HW 18</b>	19
19	3/11	T	Photophosphorylation; <b>HW 19</b>	19
<b>20</b>	<b>3/13</b>	<b>Th</b>	<b>Quiz 3 (classes 16 &amp; 18); REVIEW</b>	
	<b>3/18</b>	<b>T</b>	<b>COMPREHENSIVE FINAL EXAM (Classes 8-18) 2:45-5:00pm</b>	

**HAVE A GREAT QUARTER!**

