

Instructor:	Chuan (River) Xiao	Phone:	915-747-8657
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Class Meet:	TR 12:00-1:20pm @ UGLC 116	Office Hrs:	After class TR 1:30-2:00pm <u>or by appointment</u>
Scope:	A study of the fundamentals of Biochemistry including the building blocks of all proteins, the three-dimensional structure of proteins, protein and enzyme function, nucleic acids, and biological membranes.		
Objective:	Students who complete this course will be able to recognize all four major types of biochemical building blocks, using the principles and concepts of biochemistry learned in the class to understand new and unfamiliar systems.		
Prerequisites:	Organic Chemistry (3221/3222/3321/3322 or 2124/2125/2324/2325).		
Class Meetings:	Tuesday & Thursday 12:00-1:20pm at UGLC 116 (All cell phones, pagers, and audio of your electronic devices should be turned <u>OFF</u> during class!!!)		
Required Materials:	<p>1. Lehninger <i>Principles of Biochemistry</i> 7th Ed.; Nelson and Cox; W. H. Freeman Company, New York, ISBN-13 options:</p> <p>A. 9781319108236 (E-book with 6-month Sapling Learning Plus, online or bookstore);</p> <p>B. 9781319251406 (E-book with 6-month Sapling Learning Plus and customer print Chapter 1 to 12 textbook, only at University Bookstore).</p> <p>C. 9781319108328 (E-book with 24-month Sapling Learning Plus, online or bookstore);</p> <p>D. 9781464187964 (the loose-leaf textbook, online or bookstore);</p> <p>E. 9781319168988 (the hard-cover textbook, online or bookstore);</p> <p>Option A or B is for most students only need to take CHEM3330 (Fall 2018). Option C is for students who want to take both CHEM3330 (Fall 2018) and CHEM3332 (Spring 2019). Option D or E is for students who want to have a hard copy of the whole textbook.</p> <p>2. Student will need to do BOTH the on-lecture quizzes (Qz) and the pre-lecture assignment (PLA) to obtain their Q&P average score that can be counted into their final score.</p> <p>A. I>Clicker* will be required for all on-lecture quizzes. It is <u>student's responsibility</u> to purchase and maintain a working I>Clicker during the semester. Students have two weeks of time at the beginning of the semester to purchase and test their i>Clickers. Please carry spare batteries to every class to avoid missing quizzes. <u>FORGOTTEN I>CLICKER OR LACK OF BATTERIES OR I>CLICKER MALFUNCTION AFTER THE FIRST TWO WEEKS OF THE SEMESTER WILL NOT BE A VALID EXCUSE FOR MISSING QUIZZES!!!!</u></p> <p>* UTEP and the <i>i>Clicker</i> vendor have agreed that the students can also use the on-line voting system <i>i>Clicker Cloud</i> without additional charge. However, i>Clicker (physical clicker) based voting is still the only way for the on-lecture quizzes and i>Clicker Cloud will not be supported for on-lecture quizzes. The instructor cannot take response for technical difficulties or reliability issues of using i>Clicker Cloud.</p> <p>B. Account on Sapling Learning Plus for all PLA. It is <u>student's responsibility</u> to purchase the service from www.saplinglearning.com so that you can login and finish the on-line PLAs (ISBN Option A, B, and C above). It is student's responsibility to have required computer/network hardware and software to accomplish the PLAs. Students have two weeks of time at the beginning of the semester to test and try the Sapling website and two bonus PLAs to get familiar with the system without affecting their Q&P average score. <u>AFTER THE FIRST TWO WEEKS, NO INDIVIDUAL COMPUTER/NETWORK EXCUSE WILL BE TAKEN FOR MISSING PLAs.</u></p>		
Review Sessions:	After the exams, students can review the exams during the office hours. However, there will be <u>NO REVIEW SESSIONS</u> before exams. Questions should be addressed in class or office hours.		
Quizzes, PLA & Exams:	<p>There will be quizzes, PLAs and exams, all contribute to the final grade.</p> <p><i>Quizzes:</i> There will be a quiz given at every lecture that will also serve as a record of attendance. Quiz questions will be given at the very beginning of class. <u>ARRIVE IN CLASS ON TIME AND REVIEW THE PREVIOUS LECTURE.</u> Furthermore, there will be several quiz questions during the lecture. <u>Bonus points</u> will be given for quizzes (see below in section of Bonus Points).</p> <p><i>PLAs:</i> There will be weekly PLAs that require students to read the materials <u>IN ADVANCE</u>. The PLAs are reviewed by the instructor but prepared, given and graded by <i>Sapling Learning</i>.</p> <p><i>Exams:</i> There will be four exams. Each exam covers ¼ (three chapters) of the materials.</p>		

**Course
Grading:**

Final grades in the course will be determined using scores on quizzes, PLAs and exams.

1. The quiz average score (80%) and PLA score (20%) will be combined to contribute for one score as Q&P score. Q&P scores for the first two weeks will not be counted into final Q&P score however they will serve as bonus points (see below in section of **Bonus Points**).
2. The lowest score in Q&P and four exam scores can be dropped and the remaining 4 scores will each contribute 25% of the final score. Letter grades will not be assigned for score of Q&P and individual exams. The actual score of Q&P and individual exam will be converted to number of points for the final score.
3. Depending on the overall performance of the class, letter grade will be assigned based on the final score. After the second exams, the criteria for assigning the letter grade will be set and announced in the middle of the semester before the class-withdraw deadline. The criteria will not be changed till the end of the semester. All the daily quiz scores, Q&P average score, exam scores and current rank in the class will be posted on Blackboard. Individual PLA score will be available on *Sapling Learning* website (www.saplinglearning.com).

**Class
Attendance:**

CLASS ATTENDANCE IS REQUIRED: Attendance will be taken at each class meeting using **UTEP student ID cards, the daily i>clicker quizzes, and randomly-called questions.**

Students are responsible for attending lecture regularly and knowing what takes place during classes. This includes not only the material covered in the class, but also all announcements, changes in the syllabus, etc. *Attendance will be taken at each class meeting using UTEP student ID cards.* Card readers are located at the entrance of the classroom. When you enter class, simply hold your student ID card against the reader. It may not be necessary to remove the card from your wallet or purse. If the light on the device turns green, your card has been read properly and your attendance has been recorded. If the light remains red, the device was unable to read your card; please present it again gently until the green light appears. If you do not see the green light, you may need to remove your card from your wallet or purse to ensure that it is detected. Your attendance will be recorded up to 15 minutes before and 15 minutes after your class is scheduled to start. In addition, attendance will be routinely taken in the form of the daily quiz and questions during the lecture. Students will be called by name randomly to answer questions. If the student is absence when he or she is called but his or her student ID and quiz voting appears in the collected data, the student will be considered as suspected cheating and will be reported according.

IF you MUST miss a class, YOU need to make a special effort to learn what occurred during your absence. You also need to submit verifiable documents to be approved by the instructor for your absence to get documented absences (DA) so that it will not affect your quiz average and semester attendance bonus points. The documents must from a third party. Letters or emails from the student who will be absence cannot serve as valid document for the absence. Without approved documents, zero score will be included in your quiz average and you will lose your semester attendance bonus. Absence documents that are submitted two weeks later than the absence date will NOT be accepted. Your first absence will be automatically waived (waived absence, WA) without counting its zero score in the quiz average. However, you do lose points for semester attendant bonus (see below in section of **Bonus Points**).

Bonus Points:

Every student can earn bonus points as shown below. **NO EXTRA CREDITS** will be given.

1. *Daily quiz bonus:* Bonus points equal to one question will be given for each lecture to who answer all the questions (attendance bonus). Additional bonus points equal to one question will be given for each lecture to who answers all quiz questions correctly (champion bonus).
2. *Semester attendant bonus points:* Bonus points will be given to students' Q&P average: 5 points if attended all the classes; 4 points if attended all the classes except documented absence (DA); or 2 points if attended all but one class (one waived absence but no other missing class except document absence).
3. Before calculating the quiz average score, the lowest quiz score will be dropped if you do not have any WA or DA.
4. The lowest PLA score will be dropped before calculating the average. Missing PLA (zero scores) will not be treated as lowest score.
5. The scores of PLA and quizzes for the first two weeks will be added to your average score calculation only if they are higher than your average.

Quiz, PLA and Exam Policies:

1. *Quiz Rules:* Students are allowed to look your textbook. Students are not allowed to talk to their classmates. Asking classmates to taking/voting for you will be treated as cheating.
2. *PLA Rules:* Students will have several days (normally one week in advance) to finish the PLAs. The PLA will be due in Monday evening except special announcements. NO EXTENSION OF DEADLINE will be given individually after the due time because the correct answers will be available after the deadline. It will be unfair to other students who finished the PLA before the due deadline.
3. *Exam Rules:* Students should wait outside the exam room before instructor finish preparing the room. Students will be **assigned** to their seats by the proctors. Proctors have the rights to re-seat the students. Students are highly suggested to go to the restroom before the exam. During the exam, only one student a time can go to the restroom and will be accompanied by one proctor. Remove baseball caps. Do not look around. No talking, no joking, no sharing of pencils and erasers. Cellular phone and all other electronic devices must be turned off and put away. All belongs must be put on the floor on the side or in front of the classroom and put away out of sight. **NO calculators or other electronic devices are allowed.** Only pencil, eraser and Scantron sheet are allowed to be used during the exam. Do not disrupt students around you if you finish the exam earlier. Suspicious activity will be dealt with accordingly.
4. To drop an exam, you must have taken the exam or prepare documents before the exam to state your dropping. **NO ZEROS WILL BE DROPPED!**
5. **THERE WILL BE NO MAKE-UP TESTS/EXAMS IN THIS COURSE!** The missed exam will be the one you drop if you have a DOCUMENTED EXCUSED ABSENCE. The documents must submit and approved **BEFORE** the exam.
6. ONLY ONE score in Q&P average and four exams can be dropped.
7. Please go over your exams when you come to review them and check for adding/grading errors. Except for clerical errors, re-grade requests will be a reevaluation of the entire exam. Be aware that returned Scantrons will be photocopied prior to handing back!

Withdrawal Policy:

There is a deadline (Nov. 2nd) after the Exam 2 for student to withdraw from any course with an automatic “W”. Please note that it is the student’s responsibility to officially withdraw from the course. The College of Science (CoS) aligns with UTEP with respect to the drop date and will not approve any course withdrawals after that date. There are always extenuating circumstances such as a death in the family or an illness; therefore, CoS will approval a complete withdrawal of all courses – not just one course in these cases. Biochemistry I (CHEM 3330) is a very demanding and challenging course. Students need to spend a lot of time to study the material outside the classroom. Please consider seriously when you cannot improve your score because you don’t have enough time to study. The grades of Incomplete “I” must be accompanied by an Incomplete Contract that has been signed by the instructor, student, departmental chair, and the dean. The CoS requests the contract be limited to one month based upon completion data. A grade of “I” is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

Academic Integrity Policy:

Suspected cases or acts of alleged scholastic dishonesty (CHEATING) in quizzes, PLAs or exams will be dealt with University regulations. This means automatic referral to any adjudication by the Dean of Students.

Disability:

If you have or suspect a disability and need accommodations, you should contact The Disabled Student Services Office (DSSO) at 747-5148. You can also email the office at dss@utep.edu or go by the Union Building East, Room 106. For additional information, visit the DSSO website at www.utep.edu/dsso/.

Tentative* Schedule for material to be covered

Events	Date	Assignment
Introduction	Aug. 28 th	First day of classes, Review syllabus, Intro to i>clicker and sapling homework.
Lecture 1	30 th	Chapter 1. The Foundations of biochemistry (1.1-1.2) (Page 7e1-14), Chapter 3 Amino acid (7e79)
PLA** 1	Sept. 3th	Cover Lecture 1, 2 and 3**

Lecture 2	4 th	Chapter 1. The Foundations of biochemistry (1.2-1.3) (Page 7e15-26), Chapter 3 Amino acid (6e79)
Lecture 3	6 th	Chapter 1. The Foundations of biochemistry (1.3-1.5) (Page 7e27-40), PART1 (Page 7e45-46, Chapter 2. Water (2.1) (Page 7e47-48), Chapter 3 Amino acid (7e79)
PLA 2	10th	Cover Lecture 4 and 5
Lecture 4	11 th	Chapter 2. Water (2.2-2.2) (Page 7e48-60), Chapter 3 Amino acid (7e79)
Lecture 5	13 th	Chapter 2. Water (2.2-2.5) (7e60-70), Chapter 3. Amino Acids, Peptides and Proteins (3.1) (Page 7e75-82)
PLA 3	17th	Cover Lecture 6, 7 and 8
Lecture 6	18 th	Chapter 3. Amino Acids, Peptides and Proteins (3.1-3.3) (Page 7e83-92)
Lecture 7	20 th	Chapter 3. Amino Acids, Peptides and Proteins (3.4) (Page 7e93-109);
Exam 1	25th	Exam 1 12:00pm-1:20pm @ UGLC116
Lecture 8	27 th	Chapter 4 The 3D structure of Proteins (4.1-4.3) (Page 7e115-129)
PLA 4	Oct 1st	Cover Lecture 9 and 10
Lecture 9	2 nd	Chapter 4 The 3D structure of Proteins (4.3-4.4) (Page 7e130-151);
Lecture 10	4 th	Chapter 5 Protein Function (5.1-5.3) (Page 7e157-164)
PLA 5	8th	Cover Lecture 11 and 12
Lecture 11	9 th	Chapter 5 Protein Function (5.3-5.5) (Page 7e165-183)
Lecture 12	11 th	Chapter 6 Enzyme (6.1-6.4) (7e187-216)
PLA 6	15th	Cover Lecture 13, 14 and 15
Lecture 13	16 th	Chapter 6 Enzyme (6.4-6.5) (7e217-236); Chapter 7 Carbohydrates and Glycobiology (7.1) (7e241)
Lecture 14	18 th	Chapter 7 Carbohydrates and Glycobiology (7.1-7.2) (Page 7e241-258);
Exam 2	23rd	Exam 2 12:00pm-1:20pm @ UGLC116
Lecture 15	25 th	Chapter 7 Carbohydrates and Glycobiology (7.2-7.5) (Page 7e259-275); Chapter 8 Nucleotides and Nucleic Acids (8.1)(Page 7e279-281);
PLA 7	29th	Cover Lecture 16 and 17
Lecture 16	30 th	Chapter 8 Nucleotides and Nucleic Acids (8.1-8.3)(Page 7e281-298);
Lecture 17	Nov. 1 st	Chapter 8 Nucleotides and Nucleic Acids (8.3-8.4)(Page 7e298-313); Chapter 9 DNA-Based Information Technologies (9.1) (page 7e319-322)
Drop day	Nov. 2nd	* Course Drop Deadline *
PLA 8	5th	Cover Lecture 18, 19, and 20
Lecture 18	6 th	Chapter 9 DNA-Based Information Technologies (9.1-9.3) (page 7e322-343);
Lecture 19	8 th	Chapter 9 DNA-Based Information Technologies (9.3-9.4) (page 7e344-356); Chapter 10 Lipids (10.1-10.2) (Page 7e361-371)
Exam 3	13th	Exam 3 12:00pm-1:20pm @ UGLC116
Lecture 20	15 th	Chapter 10 Lipids (10.2-10.4) (Page 7e372-384); Chapter 11 Biological Membranes and Transport (11.1-11.2) (Page 7e387-401);
PLA 9	19th	Cover Lecture 21 and 22
Cancelled***	20th	No Class***
Holiday	22nd	Thanksgiving Holiday, no classes
Lecture 21	27 th	Chapter 11 Biological Membranes and Transport (11.2-11.3) (Page 7e401-431);
Lecture 22	29 th	Chapter 12 Biosignaling (12.1-12.3) (Page 7e437-458);
PLA 10	Dec. 3rd	Cover Lecture 23 and 24
Lecture 23	4 th	Chapter 12 Biosignaling (12.3-12.9) (7e458-476)
Lecture 24	6 th	Chapter 12 Biosignaling (12.10-12.12) (7e476-487)
Dead Day	7th	Dead Day
Exam 4	11th	Exam 4 1:00pm-2:20pm @ UGLC116

* We may end up going slower or faster depending on how the class is doing. This table is our tentative plan. The exam dates can also be changed if we have unexpected delay.

** PLAs are designed for you to study ahead of lectures. The lecture coverage listed in the table will be approximate which might be off because of balance between different PLAs and depending on the lecture progress.

*** Depend on the progress of the class such as we are way behind the schedule, we might have class on that day.