

Syllabus and Course Information for

Biochemistry I

CHEM 4311-001

Spring 2015

Text	Biochemistry, 5 th Ed. Garrett & Grisham Sapling Online Learning Supplemental Text: Lehninger Principles of Biochemistry, D. L. Nelson and M. M. Cox		
Place	Room 121 Science Hall (SH 121)		
Time	Tuesday & Thursday 9:30 am – 10:50 am		
Instructor Information	Dr. Jennifer Rhinehart Chemistry Research 103 (817) 272-1091 rhineh@uta.edu (Please include “CHEM 4311-001” in subject line.)		
Office Hours	Monday 10:30 am – 12:00 pm and 1:00 pm – 2:30 pm Wednesday 10:30 am – 12:00 pm Thursday 3:30 pm – 4:30 pm		
Grading	Exam I (100 points)	A	≥ 630
	Exam II (100 points)	B	≥ 560
	Exam III (100 points)	C	≥ 490
	Exam IV (100 points)	D	≥ 420
	Final Exam (200 points)	F	≤ 419
	Quizzes & Sapling HW (25 points)		
	Primary Literature Project (75 points)		
Important Dates	Jan 20	First Day of Classes	
	Feb 4	Census Date	
	Apr 3	Last day to drop	
	Mar 9-14	Spring Break – No Classes	
	May 14	Final Exam Thursday 8:00 am – 10:30 am	

Course Content

Students who complete this course successfully should be fully conversant with the following subject areas. They should be able to name, draw and identify the major biochemical components of living cells, including: carbohydrates, amino acids, peptides and proteins, nucleotides and nucleic acids, vitamins, coenzymes and enzymes. They should also understand the elements of enzyme kinetics and inhibition, and be able to obtain kinetic constants from experimental measurements. They should know details, including components and sequences, of the major carbohydrate metabolism and energy producing pathways, including glycolysis, TCA cycle, pentose phosphate pathway, electron transport systems, and oxidative phosphorylation.

Class Schedule

Jan. 20 Amino Acids (Ch 4)	Jan. 22 Buffers/Amino Acids (Ch 2/4)	
Jan. 27 Proteins (Ch 5/6)	Jan. 29 Proteins (Ch 5/6)	
Feb. 3 Carbohydrates (Ch 7)	Feb. 5 Exam I (2, 4-6)	
Feb. 10 Glycoconjugates (Ch 7)	Feb. 12 Nucleotides (Ch 10)	
Feb. 17 Nucleic acids (Ch 10)	Feb. 19 Structure of NA's (Ch 11)	
Feb. 24 Enzymes (Ch 13)	Feb. 26. Exam II (7, 10, 11)	
Mar. 3 Enzymes (Ch 13)	Mar. 5 Enzymes (Ch 13)	Project Part A: Due March 6 th 5:00 pm
Mar. 17 E Mechanism (Ch 14)	Mar. 19 E Regulation (Ch 15)	
Mar. 24 Metabolism (Ch 17)	Mar. 26 Exam III (13-15)	
Mar. 31 Thermodynamics (Ch 3)	Apr. 2 Thermodynamics (Ch 3)	
Apr. 7 Glycolysis (Ch 18)	Apr. 9 Glycolysis (Ch 18)	Project Part B: Due Apr. 9 th 5:00 pm
Apr. 14 Tricarboxylic Acid Cycle (Ch 19)	Apr. 16 Tricarboxylic Acid Cycle (Ch 19)	
Apr. 21 Tricarboxylic Acid Cycle (Ch19)	Apr. 23 Pentose Phosphate Path. (Ch 22)	
Apr. 28 Electron Transport (ch 20)	Apr. 30 Exam IV (17, 3, 18, 19 & 22)	
May 5 Ox phosphorylation (ch 20)	May 7 Final Review	
	May 14 Final Exam 8 - 10:30 am	

***Note:** As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. –Jennifer L. Rhinehart

Information to Purchase and Log onto Sapling Learning

Students:

1. Go to <https://saplinglearning.com>

2a. If you already have a Sapling Learning account, log in then skip to step 3.

2b. If you have Facebook account, you can use it to quickly create a Sapling Learning account. Click "create account" located under the username box, then click "Login with Facebook". The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and timezone, accept the site policy agreement, and click "Create my new account". You can then skip to step 3.

2c. Otherwise, click "create account" located under the username box. Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.

3. Find your course in the list (listed by school, course, and instructor) and click the link.

4. Select your payment options and follow the remaining instructions.

Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments.

During sign up - and throughout the term - if you have any technical problems or grading issues, send an email to support@saplinglearning.com explaining the issue. The Sapling support team is almost always more able (and faster) to resolve issues than your instructor.

Key Notes:

1. General Chemistry I & II and Organic Chemistry I & II are pre-requisite for this course (See the note #2). I may explain some concepts associated with these pre-requisites and fundamental mathematics in class. If you have problems understanding Biochemistry associated with these pre-requisites, you may have to re-take these courses and your chance to get the grade A or B is less than 1%.
2. All students who enroll in Chemistry classes should have had a grade of "C" or better in the Chemistry courses that are the prerequisites. All students will need at least a "C" in this course to proceed to the next courses in the series where applicable, such as Biochemistry II (CHEM 4312) and Enzymology (CHEM 4314-5325) etc.
3. Make-up examinations will **NOT** be given [exception: e.g., a student(s) is very ill; required Dr.'s signed document] [no books, no caps, no cell phones, no music devises etc. only allowed a simple calculator and ID required]. Academic make-ups will need to be completed before the exam is given.

4. The main study material is our textbook, and exams will be relied on the textbook, unless otherwise noted. Supplementary lecture notes are NOT the main study material but additional study materials.
5. If necessary, key study information (and relevant issues) along with quizzes and homework will be announced between 9:30 AM – 9:35 AM.
6. Quizzes will be given at the beginning of class every Tuesday. Quizzes will not be accepted after the first 5 minutes of class. Given (provided) quiz scores can be canceled if a misconduct(s) of a student(s) is found. I do **NOT** give any additional extra-point by arguing quiz points.
7. Your performance will be evaluated by and course grade determined from the scores received on the four exams, quizzes, homework, primary literature project and the comprehensive final examination according to the grading scale above. There will be **NO EXAM REPLACEMENT**.
8. Only write out portions of exams will be returned to students. Final exams will not be returned.

General Notes:

1. At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have elected to take attendance but it will not factor attendance into the grade.
2. **Stated prerequisites for this course** are: one year of Organic Chemistry (CHEM 2322) or equivalent and one year of General Chemistry. Please, be fully acquainted with all aspects of chemical bonding, structure, mechanisms, properties of water, pH, acids and bases, etc. before you enroll, as this course relies indispensably on a thorough working knowledge of these topics. If it has been more than one year since you took Organic Chemistry or if you received a grade other than A or B, you are strongly advised to review that material again. Also, you should read and be familiar with **Chapters 1 and 2**, since we will not cover these in class in details (except Buffer in Chapter 2). Understanding these basics is very important to the subsequent topics as well as to your successful progress in biochemistry it will be expected you for you to know these chapters on all exams.
3. **Examinations Policy: READ THIS VERY CAREFULLY!** For examinations, students will be required to present current UTA ID, and any calculator for inspection. **Exams turned in by students without ID will not be graded.** Only simple arithmetic calculators will be allowed, no complex graphing and equation-storing calculators will be permitted (for obvious reasons). During examinations, students must hand in their exam papers when they leave the room for any reason. After this, the student **cannot** return and resume the examination. A student who arrives late for any examination will be allowed to take the examination **only if no other student has finished the**

exam and left the room. Students must be in line to turn in their exams at the end of the exam period or it will not be graded.

4. **Exam Re-grade Policy:** If you feel an exam question was graded incorrectly you may submit your exam to be re-graded immediately (before you leave class the day it is returned). Your entire exam will be re-graded. You will have **one** opportunity for an exam re-grade if you do not exceed 5 points returned.
5. **Expectations for Out-of-Class Study:** Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required material, completing assignments, preparing for exam, etc. Students with a weak background in General and Organic Chemistry may find that they need to spend much more than 9 hours per week in study.
6. **Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wwwb.uta.edu/aao/fao/>).
7. **Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.
8. **Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.
9. **Academic Integrity:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

10. **Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.
11. **Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.
12. **Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.
13. **Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

14. **Student Support Services:** UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

15. **Emergency Phone Numbers:** In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911.