

**CHEM 4311**  
**GENERAL BIOCHEMISTRY I**  
**Spring, 2017**

**Syllabus and Course Information Sheet**

TEXT	<b>Biochemistry, 6<sup>th</sup> Edition Garrett &amp; Grisham</b> <b>ISBN10:</b> 1305577205, <b>ISBN13:</b> 978-1305577206
Supplement (optional)	Lehninger Principles of Biochemistry by Nelson & Cox (any edition)
Place	UH 108
Time	9:30 A.M- 10:50 AM (Tu/Th)
Instructor	Dr. Kayunta Johnson-Winters
Office	350, Chemistry and Physics Building (CPB 350)
Phone	(817) 272-3802
Email	<a href="mailto:Kayunta@uta.edu">Kayunta@uta.edu</a>
Office Hours	11:00 A.M.-12:00 PM, Tu/Thur
Faculty Profile	<a href="http://www.uta.edu/profiles/Kayunta-Johnson-Winters">http://www.uta.edu/profiles/Kayunta-Johnson-Winters</a>

**Student Learning  
Outcomes**

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.

**GRADING POLICY AND EXAMINATION DETAILS**

Exams	Points	Topics & Chapters	Approximate Date*	Grade	Scores (%*)
I	<b>100</b>	Chapters 1, 2, 4, 5, 6 & 7	Feb 14*	<b>A</b>	≥ (90%)
II	<b>100</b>	Chapters 10-15	Mar 9*	<b>B</b>	≥ (80%)
III	<b>100</b>	Chapters 3, 17, 18, 19, 22	April 25*	<b>C</b>	≥ (70%)
Final	<b>200</b>	Comprehensive (including Chapter 20)	May 11 (actual date)  <b>8 A.M. - 10:30 A.M.</b>	<b>D</b>	≥ (60%)
				<b>F</b>	< (59%)

**\*EXACT EXAM DATES WILL BE ANNOUNCE DURING CLASS!!!**

**SCORES = Exam I (100 points) + Exam II (100 points) + Exam III (100 points) + Exam IV (200 points) + Quizzes etc**

$$\text{* Average scores} = \frac{\text{Exam I (100 points)} + \text{Exam II (100 points)} + \text{Exam III (100 points)} + \text{Final Exam (200 points)} + \text{extrapoints(Quizzes)}}{5}$$

## IMPORTANT DATES

January 17	First Day of Classes
February 1 <sup>st</sup>	Census Date
March 13-18 <sup>th</sup>	Spring Break
March 31 <sup>st</sup>	Last Day to Drop Classes
May 5 <sup>th</sup>	Last Day of Classes
May 11	Final Exam, 8-10:30 A.M.

***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. " – Kayunta Johnson-Winters.***

### Times Table (topics to be covered)

Dates	Chapters	Topics
Jan 17	2	2. Buffer ( <u>brief</u> )
Jan 19 & Jan 24	7	7. Carbohydrates & Glycoconjugates
Jan 26 & Jan 31	4	4. Amino acids
Feb 2, 7 & 9	5 & 6	5. Proteins (I) 6. Proteins (II)
<b>Feb 14*</b>	Exam I ( <b>100</b> points), Chapters 1, 2, 4, 5, 6 & 7	
Feb 16, 21, 23 Feb 28	10, 11 & 12	10. Nucleotides & Nucleic acids 11. Structure of Nucleic acids 12. Recombinant DNA ( <u>brief</u> )
March 2 & 7	13, 14 & 15	13. Enzymes 14. Mechanism of Enzyme Action 15. Enzyme Regulation
<b>March 9*</b>	Exam II ( <b>100</b> points), Chapters 10-15	
Mar 21 & 23	17 & 3	17. Metabolism: An Overview ( <u>brief</u> ) 3. Thermodynamics of Biological Systems ( <u>brief</u> )
Mar 28, 30 & Apr. 4	18	18. Glycolysis
Apr. 6 & 11	19	19. The Tricarboxylic Acid Cycle (TCA Cycle)
Apr. 13, 18 & 20	22	22. The Pentose Phosphate Pathway
<b>April 25*</b>	Exam III ( <b>100</b> points), Chapters 3, 17,18,19, 22	
Apr. 27, May 2 & 4	20	Electron Transport and Oxidative Phosphorylation
<b>May 11</b> 8-10:30 A. M.	Final Exam ( <b>200</b> points) Comprehensive including Chapter 20	

\*The exact date for the exams will be announced in class.

## KEY NOTES

1. General Chemistry I & II as well as Organic Chemistry II & I 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 BUT NOT in person. If you have problems in understanding Biochemistry associated with these pre-requisites, you may have to re-take these courses. If you have problems understanding Biochemistry associated with these pre-requisites, your chance to get the grade A or B is less than 1%. 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. They will be part of block exam # I. This is a demanding course even for students who are conversant with this material, but if you are not, then the course will be very difficult and cumbersome for you.

2. All students who enroll in Fall Chemistry classes should have had a grade of "C" or better in the Chemistry course that is the prerequisite. All students will need at least a C in your 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 devices etc. only allowed a simple calculator and ID required]. See the note #9.

4. The main study material is our textbook and lecture notes, and exams will be relied on the textbook and lecture notes, unless otherwise noted. Prior to the class, study materials (e.g., supplementary lecture notes) will be posted on Blackboard.

5. After each block of lectures, the posted study materials **WILL BE REMOVED FROM** Blackboard. Once removed from Blackboard, I do NOT re-post the study materials. I do NOT re-supply the study materials in any other methods (e.g., *via* email etc).

6. If necessary, key study information (and relevant issues) will be announced at the beginning of class.

7. When necessary, quizzes and homework will be given at at the beginning 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.

8. The office hours are NOT designated for the discussion of makeup exams, patterns of exams, grades, other complaints etc.

9. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in course and dismissal from the University.

10. Your circled letters on the test-sheet **MUST** be the same as the bubbled-in letters on your scantron card (type 882-E). No later complaints or corrections will be accepted or allowed!

11. Your performance will be evaluated by and course grade determined from the scores received on the first three exams (I, II and III), quizzes and the comprehensive final examination according to the grading scale above.

12. Pass Fail Option is NOT allowed for this course.

13. Examinations Policy: READ THIS VERY CAREFULLY! For examinations, students will be required to present current UTA ID, and any calculator for inspection. 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.

14. Each student is responsible for furnishing the **Scantron answer sheets (type 882-E)** for the examinations. **THESE ARE DUE TO THE INSTRUCTOR THE FIRST WEEK OF CLASS!!!!**

**15. Cell Phone & Bomb Threat Policy:** Cell phones and pagers are to be turned off during class unless you are on call or a parent with a child. In this case, cell phone or pager must be in vibration mode. Other circumstances can be considered only after discussion with the instructor. If the policy is violated, the cell phone will be confiscated for the remainder of class. Chronic disregard of this policy will lead to punishment.

In the event of a bomb threat to a specific facility, University Police will evaluate the threat. If required, exams may be moved to an alternate location, but they will not be postponed. UT-Arlington will prosecute those phoning in bomb threats to the fullest extent of the law.

**Attendance:** 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 decided that attendance at class meetings is strongly encouraged. As such, I take attendance at my discretion and from time to time, may decide to give extra credit based upon attendance.

**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://www.uta.edu/aao/fao/>).

**Disability Accommodations:** UT 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)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. 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 disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for**

**Students with Disabilities (OSD).** Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for Students with Disabilities, (OSD)** [www.uta.edu/disability](http://www.uta.edu/disability) or calling 817-272-3364.

**Counseling and Psychological Services, (CAPS)** [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671.

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](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [uta.edu/eos](http://uta.edu/eos). For information regarding Title IX, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).*

**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.

All students are expected to pursue their scholastic careers with honesty and integrity. Academic dishonesty will not be tolerated by the Department of Chemistry and Biochemistry. Academic dishonesty includes (but is not limited to) cheating, falsification of data, plagiarism, and contracting/collusion with others to take your test or do your work. Cheating is the use or acquisition of information (data, constants, formulas, textual material, etc.) from either unauthorized sources or in an unauthorized manner. Examples of cheating include, but are not limited to:

- exchanging information during a test or quiz.
- looking at another student's paper during a test or quiz.
- bringing information in any form into the test or quiz other than personal knowledge. This includes:
  - written notes (crib sheets) and digitally stored information (formulas, constants, textual, etc.), looking at a book or other unauthorized source during the test or quiz.
  - accessing information by any electronic means (cellular phones, pagers, radios, etc.).
  - processing data or information in an unauthorized manner using a programmable calculator or computer. In other words, unless you have received authorization, you are not permitted to use any computer program. This includes specialty computers or calculators in which the "programming" is built into the computer. You are permitted to use a simple calculator.

**In the event that test proctors decide that a student is cheating, the following actions will be taken:**

- the student will be notified and, if the situation merits, asked to explain their actions.
- the source of the unauthorized information will be removed during the remainder of the test period and returned to the student following the test, if appropriate.
- the student may be asked to move to a different location to complete the test.
- In some cases the proctor will need to examine temporarily the calculator/computer to verify unauthorized use. The calculator will be returned to the student to permit the student to finish the test.
- a record of the events and actions surrounding the alleged act of cheating will be submitted to the Associate Vice Provost for Student Affairs for further action. See the Undergraduate Catalog for further information.

By taking the instructor's exam, the student is acknowledging the UT Arlington Honor Pledge and agreeing to adhere to this policy.

**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>.

**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>.

**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.

**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. Please see the Emergency/Fire Evacuation Procedures (<http://www.uta.edu/police/EvacuationProcedures.pdf>) for more information.

**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](mailto:resources@uta.edu), or view the information at <http://www.uta.edu/universitycollege/resources/index.php>

<p><b>Emergency Phone Numbers:</b> [Optional but strongly recommended] In case of an on-campus emergency, call the UT Arlington Police Department at <b>817-272-3003</b> (non-campus phone), <b>2-3003</b> (campus phone). You may also dial 911. Non-emergency number 817-272-3381</p>
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