Syllabus

CHEM4311: General Biochemistry I

Summer 2018

Instructor
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Office Hours: Monday **-** Thursday 12:30-1:30 AM
Section Information: Chem4311-001

Time and Place of Class Meetings: CRB114, Monday, Tuesday, Wednesday, and Thursday 10:30 AM-12:30 PM

Required Textbooks and Other Course Materials:
Biochemistry, 6th Edition Garrett & Grisham
Others recommended: Student solution and Study guide for Garrett and Grisham
By Jemiolo and Theg

Description of Course Content:
This course is an introduction to biochemistry. It is the first semester of a two semester sequence. Topics include basics of structures and functions of different biomolecules such as amino acids, carbohydrates, and nucleic acids, enzyme kinetics and various metabolic pathways including glycolysis, the TCA cycle, electron transport and oxidative phosphorylation and the pentose phosphate pathway. Prerequisite: CHEM 2322 or equivalent. Knowledge of physical chemistry is helpful.

Student Learning Outcomes:
Students who complete this course successfully should be fully conversant with the following subject areas. They should be able to understand the basic structures and functions of different biomolecules, such as carbohydrates, proteins, nucleic acids, vitamins, coenzymes, and enzymes. They should also understand the elements of enzyme kinetics. 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.
Descriptions of major assignments and examinations:

There will be four examinations (three mid-terms and one final examination). Mid-term examinations will include materials that are taught before that particular examination. Final examination will be comprehensive and include all the study materials covered during the whole semester.

Attendance, other requirements, and how to do well in this class:

- Student must attend each class. Missing classes without appropriate reason and notification may have impact on the final grades.
- Attend each lecture and study in parallel to the class or in advance. Attending lectures is important because lots of course materials will be covered in each lecture.

Grading Policy and Examination:

Exam I (June 12th Tuesday)	20%
Exam II (June 21th, Thursday)	20%
Exam III (July 03, Tuesday)	20%
Final exam (July 09, Monday, Comprehensive)	40%

Grading Scale:

Grade	Score (%)
A	$\geq$ 85 %
B	$\geq$ 75 %
C	$\geq$ 65 %
D	$\geq$ 55 %
F	< 55 %

Important Dates:

June 04:	First day of classes
June 07:	Census Date
June 25:	Last date to drop a course
July 05:	Last day of classes
July 09:	Final examination 10:30 AM -12:30 PM

Note: The topics will be completed in the sequence shown, and the exams will concern the topics that are listed prior to the exam. However, no accurate day-to-day schedule can be presented due to uncertainties in the time required to present some of the topics, depending on the material included and the time required for classroom discussion. "*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. –Subhrangsu S Mandal."*

COURSE SCHEDULE

Date	Topics	Chapter
June 04- 11	Introduction Chemistry is the logic of Biological Phenomena Water: The Medium of Life Carbohydrates and the Glycoconjugates	1, 2, 7
	Amino Acids and proteins	4, 5, 6
June 12 (Tuesday)	Exam - I	
June 13 - 20	Nucleotides and Nucleic acids; Structures of nucleic acids; Recombinant DNA; Cloning and creation of Chimeric genes	10 11 12
	Enzymes: Kinetics and Specificity; Mechanism Of Enzyme Action; Enzyme Regulation	13, 14, 15
June 21 (Thursday)	Exam - II	
June 25-July 02	Metabolism: An overview (Vitamins and Coenzyme) Thermodynamics of Biological Systems Glycolysis The Tricarboxylic acids (TCA) cycle Pentose phosphate pathway Electron Transport and Oxidative phosphorylation	17 3 18 19 22, 20
July 3 (Tuesday)	Exam III	
July 05	Review of the main topics	
July 09 (Monday)	Final Exam (Comprehensive): 10:30 am – 12:30 pm	

Note: The topics will be completed in the sequence shown, and the exams will concern the topics that are listed prior to the exam. However, no accurate day-to-day schedule can be presented due to uncertainties in the time required to present some of the topics, depending on the material included and the time required for classroom discussion. "*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. –Subhrangsu S Mandal."*

NOTES:
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 3-4 hours per each one hr lecture and class, for the course-related activities, including reading required materials, completing assignments, preparing for exams, etc.
Make-up Exams Policy: There will not be any make-up examinations.

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://wweb.uta.edu/ses/fao).

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.

Academic Integrity: All students enrolled in this course 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.

Instructors 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.

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.

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 a 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.