



Syllabus

CHEM4312: General Biochemistry II

Spring 2018

Instructor

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Office Hours: Tuesday and Thursday 10:50-11:50 AM
Section Information: Chem 4312-001
Time and Place of Class Meetings: SH121, Tuesday and Thursday 9:30-10:50 AM

Description of Course Content:

A continuation of CHEM 4311. The breakdown and biosynthesis of fats and the synthesis of carbohydrates, including photosynthesis. Metabolic utilization of proteins and amino acids together with an introduction to protein synthesis. Prerequisite: CHEM 4311, with a grade of "C" or better, or equivalent.

Student Learning Outcomes:

Students who complete this course successfully should be fully conversant with the following subject areas. They should know details, including components and sequences, of metabolic pathways, including lipid oxidation and synthesis, gluconeogenesis, photosynthesis, amino acid breakdown, DNA and RNA synthesis, protein synthesis, genetic code and regulation of transcription and translation.

Required Textbooks and Other Course Materials:

Text Book: Biochemistry, 5th Edition, Garrett & Grisham
Other text (optional): Fundamentals of Biochemistry, 4th Edition, D. Voet, J. G. Voet and C.W. Pratt

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: I have decided that attendance at class meetings is not required but strongly encouraged.

Other requirements and how to do well in this class:

1. Attend each lecture and study in parallel to the class or in advance.
2. Attending lectures is important because some of course materials may be taken directly from current literature.

Grading Policy and Examination:

Exam I`	20%
Exam II	20%
Exam III	20%
Final exam	40%

Grading Scale:

Grade	Score (%)
A	≥ 85 %
B	≥ 75 %
C	≥ 65 %
D	≥ 55 %
F	< 55 %

Important Dates:

January 16	First day of classes
January 31:	Census Date
March 12-17	Spring Break
March 30:	Last day to drop or withdraw
May 04:	Last day of classes
May10:	Final exam 8:00 AM - 10:30 AM

COURSE SCHEDULE

Topics to be covered and approximate timetable*

Approx. Date	Topics	Chapter
January 15, 18, 23,25, 30, February 1, 6	Introduction; Lipids, membranes and membrane transport, Fatty Acid Catabolism, Lipid Biosynthesis	8,9, 23, 24
Thursday Feb 8, Exam I		
February 13, 15, 20, 22, 27 March 1, 6,	Gluconeogenesis and Glycogen Metabolism Photosynthesis, Revise basics of DNA/RNA/Proteins/enzymes Nitrogen Acquisition & Amino Acid Metabolism; Urea Cycle	21, 22, 25
March 08 (Thursday)	Exam II	

March 13-17	Spring Break	
March 20, 22, 27, 29 April 3, 5, 10, 12, 17, 19	DNA Metabolism: Replication, Recombination, and Repair Transcription and Regulation of Gene Expression	28, 29
April 24 (Tuesday) Exam III		
April 26 May 1, 3	Protein Synthesis (Translation)	30
	Completing the Protein Life Cycle: Folding, Processing, and Degradation, Epigenetics Reviews	31 and additional recent literature
May 10	Final Exam (Comprehensive) 8:00-10:30 AM	

***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 9 hours per week of their own time in 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://wwwb.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 or calling 817-272-3364.

Counseling and Psychological Services, (CAPS) 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 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. For information regarding Title IX, visit www.uta.edu/titleIX.*

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 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.

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>.

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 (location is posted inside the classroom). 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.

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 <http://www.uta.edu/universitycollege/resources/index.php>