INSTRUCTOR

Dr. Fares Z. Najar

OFFICE

2174 Stephenson Research and Technology building

PHONE

325-4912

E-MAIL

fznajar@ou.edu

OFFICE HOURS

10:00 AM - 11:00 AM MWF or by appointment

RECOMMENDED TEXT

Berg, Tymozko and Stryer "Biochemistry” 7th edition
Published by W.H. Freeman & Company – 2012

COURSE PURPOSE

As a result of this course a student should obtain an in-depth knowledge of the structures of amino acids, carbohydrates, lipids and nucleic acids. The student also will gain a deeper understanding of biochemical macromolecular structure, function and metabolism.

GRADING

Each student’s final grade will be based on the following:

• **84%** Three Hourly Exams (28% each) during normal class period.
• **16%** Weekly announced on-line quizzes and homework. The highest eight quizzes will used for the quizzes portion of this course.
EXAMS SCHEDULE
May 26, June 9, and June 24.

LECTURE TOPICS
The classroom lecture-discussion topics will follow the general order in which they appear in Berg, Tymozko and Stryer "Biochemistry" 7th edition, although from time to time you will be responsible for material from later chapters that has been included in the classroom discussion based on earlier chapters. These topics include:

- Biochemical Basis of Life in an Aqueous Environment
- Amino Acids, Protein Structure and Function
- Nucleotides and Nucleic Acids
- DNA Replication, Transcription, and Translation
- Molecular Biology: Basic concepts
- Model proteins: Myoglobin and Haemoglobin
- Catalysis, Kinetics, and Regulation
- Carbohydrates
- Lipids, and Membranes
- Metabolism concepts and design.
- Glycolysis
- Gluconeogenesis
- Citric Acid Cycle
- Oxidative Phosphorylation
- Photosynthesis
- Calvin cycle
- Pentose Phosphate Pathway
- Glycogen metabolism
- Fatty acids metabolism
- Amino Acid Metabolism
- Urea Cycle
- Nucleotide Metabolism
- Signal transduction
- Special Topics: Bioinformatics; brief introduction and concepts
- Special Topics: Metagenomics; brief introduction and concepts

RECOMMENDATIONS
- Students are responsible to check D2L at least once a day for announcements (learn.ou.edu).
- Read and outline the text material prior to the class
• Answer the questions/study exercises/problems at the end of each chapter.
• Take lecture notes and coordinate them with the on-line lecture notes, the questions at the end of each chapter, and whatever material posted on D2L.
• D2L Updates will be announced on the D2L message board, twitter® @ chem3653, and Facebook® @ CHEM 3653: Introduction to Biochemistry.
• Podcasts will be posted on D2L as soon as they are generated.
• Contact Dr. Najar prior to missing an exam.

Any student in this course who has a disability that may prevent them from fully demonstrating their abilities should contact Dr. Najar as soon as possible to discuss accommodations needed to ensure full participation and facilitate their educational opportunity.

Students should acquaint themselves with the University of Oklahoma code, policies, and procedures involving academic misconduct, integrity, and plagiarism; grievances; sexual and ethnic harassment; and discrimination.

Dr. Najar reserves the right to change by addition and/or subtraction any and/or all materials contained in this syllabus. This includes, but is not limited to, course content, assignments, due dates, and portions(s) of the grade assigned to individual items within this course.

Please note that there will be no EXTRA CREDIT or make-up quizzes for this class.

If you miss a scheduled exam you must contact Dr. Najar as soon as possible to schedule a make-up exam.