**CHEM 3653**  
**SU-2014, June 30 – August 15**  
Adams Hall 0150

**INSTRUCTOR**  
Dr. Fares Z. Najar

**OFFICE**  
2703 Stephenson Life Science Research Centre (SLSRC)

**PHONE**  
NA

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**OFFICE HOURS/ ACTION CENTER**

- **T**, 2:00 PM - 3:00 PM, at the office
- **W**, 5:00 PM - 7:00 PM at Adams Center, Muldrow Tower #105.  
  *Run by Mr. Hugo Ma.*
- By appointment.

**RECOMMENDED MATERIALS**

- i>clicker2®.

**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:

- **78%**: Three, 75-minutes, exams (26% each) during normal class period.
- **15%** Weekly announced on-line quizzes. The highest ten quizzes will be used for the 15%. There will be two quizzes every week on average.
- **7%** Daily in-class participation with “clicker” questions. Students will answer daily questions pertaining to the course topics using their clickers. This 7% is strictly based on participation. No points will be taken off for wrong answer.
EXAMS SCHEDULE
July 18, August 1, and August 15.

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 Hemoglobin
- 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
- Cholesterol
- Amino Acid Metabolism
- Urea Cycle
- Nucleotide Metabolism
- Signal transduction
- Special Topics: Bioinformatics; introduction & 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 meeting.
- Bring your i-clicker2® to each class. There will be interactive questions in most lecture to assess the level of understanding for each topic.
  To register your clicker:
  1. Go to “http://www.iclicker.com/support/registeryourclicker/”
  2. Fill-in the fields
  3. Submit.
- Attend the Action Centers.
- 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.
Check D2L for announcements. (Setup your D2L account to email you when updates take place).

- Use the podcasts that will be posted on D2L.
- 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 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.

POLICY, STIPULATIONS, and DISCLAIMER