

Instructor: Chu-Young Kim**Phone:** 747-6935**Office:** CCSB 2.0106**Email:** ckim7@utep.edu**Class meets:** MW 10:30-11:50AM
Education Building 202**Office Hours:** Wednesdays 8:00-10:00AM, CCSB 2.0106
(or by e-mail appointment)**Scope:** The course will focus on advanced topics in protein, carbohydrate, nucleic acid, and lipid biochemistry.**Class Meetings:** Please see schedule of classes on the next page.**Textbook:** There is no textbook for this course. We will use the primary literature instead.**Course Grading:** The four written exams, combined, will constitute **60%** of your final grade. Exams will cover lecture material and assigned articles. Exams are closed-book. Your performance during in-class discussions will constitute **40%** of your final grade.

If you miss an exam, due to illness, you are required to provide a doctor's note and take a make-up exam within three business days of the original exam date. Otherwise, you will receive a zero for the missed exam. Please e-mail me to make an appointment for the verbal exam.

Typically, a student with an overall score of 90-100 will receive a letter grade of **A**, 80-89 will receive a **B**, 70-79 will receive a **C**, 60-69 will receive a **D**, and 0-59 will receive an **F**. However, cutoff marks may be changed at the discretion of the instructor if deemed necessary. All requests for reports or extra work will be rejected as this is not fair to others in the class and doesn't accurately reflect your performance in the course.

Exam rules:

- If you arrive late and if someone has already turned in their exam, then you will not be allowed to take the exam. In other words, once someone turns in an exam, no one else can start on an exam.
- Remove baseball caps and all hats
- Listening to music is not allowed! Remove all headphones or ear-buds and put them away.
- No talking (obviously).
- No sharing of pencils, pens, erasers, calculators. You are to share nothing during an exam.
- No cell phone use during exams. Phones must be put away in pocket or backpack.
- No talking or joking during an exam.
- Try not to disrupt those around you after you finish an exam.
- No looking around at exams of others sitting near you. People with wondering eyes will be asked to move to another seat.
- All belongings (especially electronics) must be on the floor and put away out of sight.

Withdrawal Policy: The last day for you to withdraw from any course with an automatic "W" is **November 2, 2018**. Please note that it is the student's responsibility to officially withdraw from a course before the drop deadline. College of Science will not approve any student- or faculty-initiated drop requests after that date, except under circumstances of complete withdrawal of all courses due to medical or non-medical reasons.**Disability:** If you have or suspect a disability and need accommodations you should contact Disabled Student Services Office (DSSO) at 747-5148 or at dss@utep.edu or visit Room 106 Union East Building.

Schedule of classes (tentative)

08/27, Monday		Introduction
08/29, Wednesday	Proteins	Lecture – amino acids, peptides, proteins
09/03, Monday		Labor Day Holiday (no class)
09/05, Wednesday		Lecture – protein structure
09/10, Monday		Lecture – protein function
09/12, Wednesday		Discussion – article 1
09/17, Monday		Discussion – article 2
09/19, Wednesday		Discussion – article 3
09/24, Monday		Exam 1
09/26, Wednesday		Carbohydrates
10/01, Monday	Lecture – oligosaccharides	
10/03, Wednesday	Lecture – glycobiology	
10/08, Monday	Discussion – article 4	
10/10, Wednesday	Discussion – article 5	
10/15, Monday	Discussion – article 6	
10/17, Wednesday	Exam 2	
10/22, Monday	Nucleic acids	Lecture – nucleotides
10/24, Wednesday		Lecture – DNA structure and function
10/29, Monday		Lecture – DNA/RNA biochemistry
10/31, Wednesday		Discussion – article 7
11/05, Monday		Discussion – article 8
11/07, Wednesday		Discussion – article 9
11/12, Monday		Exam 3
11/14, Wednesday	Lipids	Lecture – fatty acids
11/19, Monday		Lecture – fats
11/21, Wednesday		Lecture – phospholipids and steroids
11/26, Monday		Discussion – article 10
11/28, Wednesday		Discussion – article 11
12/03, Monday		Discussion – article 12
12/05, Wednesday		Exam 4

There is no final exam.

Article 01 - 2014 (Perspectives in Science) Enzyme assays

Article 02 - 2018 (Nat Chem Biol) Designing macrocyclic disulfide-rich peptides for biotechnological applications

Article 03 - 2014 (Perspectives in Science) The importance and challenges of in vivo-like enzyme kinetics

Article 04 - 2018 (Nat Rev Chem) Studying glycobiology at the single-molecule level

Article 05 - 2018 (Nat Rev Chem) Homogenous catalysis for the production of low-volume, high-value chemicals from biomass

Article 06 - 2017 (Perspectives in Science) Complex carbohydrate recognition by proteins

Article 07 - 2018 (Nat Rev Chem) Comparing proteins and nucleic acids for next-generation biomolecular engineering

Article 08 - 2017 (Nat Rev Chem) Mapping and elucidating the function of modified bases in DNA

Article 09 - 2017 (Nat Rev Chem) Analysis of aptamer discovery and technology

Article 10 - 2018 (Nat Rev Mol Cell Biol) Understanding the diversity of membrane lipid composition

Article 11 - 2017 (Nat Rev Chem) Evolution of macromolecular complexity in drug delivery systems

Article 12 - 2017 (Nat Rev Chem) Global chemical analysis of biology by mass spectrometry