BIOCHEMISTRY-PROTEINS
CHEM 3811-1
Winter 2021

Instructor: Dr. Sunil Kumar (Sunil)
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Text: Lehninger Principles of Biochemistry, Seventh Edition, Nelson and Cox, Freeman and Company, 2017
Additional study: Biochemistry, Ninth Ed., Lubert Stryer et al.

Lectures: 9:00-9:50 am, MWF, via Zoom online

Office Hours: Tuesdays and Thursdays 3:00-4:00 pm, or by appointment.

Homework: Homework will be given out occasionally but will not be graded. However, it is highly recommended to work through the problems as similar questions may appear on exams.

Exams: There are two 1-hour exams during the quarter. Each exam is worth 100 points. Each Exam will be a combination of multiple choice and short answer, mechanism and calculation-based problems. If you miss a 1-hour exam, then your final exam will be counted twice and replace the missed midterm exam. With one exception, THERE WILL BE NO MAKEUP EXAMS. The only exception to the no-makeup policy will be for members of a university team or group, e.g. athletic team or music group scheduled to be away from campus at the time of the exam. You must inform your instructor of this prior to the exam and make arrangements at that time for a makup exam.

Group assignment: There will be an out of class group assignment involving a presentation on a chosen topic of interest approved by the instructor.

Grading:

midterm exams = 100 points each
group assignment = 50 points
Total point = 250

Date	Topic	Chapter
11/01	Introduction, Course Syllabus, Grading etc.	
13/01	Biochemistry Foundations 1	1
15/01	Biochemistry Foundations 2	1
20/01	Water: Weak Interactions and Solvation	2
22/01	Water: Weak Acids, Bases, Buffers	2
25/01	Amino Acids	3
27/01	Protein Primary Structure, purification	3
29/01	Protein Characterization and Sequencing	4
01/02	Secondary, Tertiary, and Quaternary Structures of Proteins-Part 1	4
03/02	Secondary, Tertiary, and Quaternary Structures of Proteins-Part 2	4
05/02	Protein Dynamics, Misfolding, and Disease 1	5
08/02	Protein Dynamics, Misfolding, and Disease 2	5
10/02	**Exam 1**	
12/02	Ligand Binding to Proteins	5
15/02	Drug Discovery in Proteins	5
17/02	Antibodies	5
19/02	Protein Function: Hemoglobin	5
22/02	Protein Function: Actin, Myosin	5
24/02	How Enzymes Work	6
26/02	Enzyme Kinetics 1	6
01/03	Enzyme Kinetics 2	6
03/03	Enzymatic Reactions	6
05/03	Enzymatic Reactions 1	6
08/03	Enzymatic Reactions 2	6
10/03	Group assignment_1	
12/03	Group assignment_2	
15/03	Group assignment_3	
17/03	Group assignment_4	
19/03	**Exam 2**	