



Jordan University of Science and Technology
Faculty of Medicine
Doctor Of Medicine Department

MED721 Advanced Biochemistry

Second Semester 2022-2023

Course Catalog

3 Credit Hours. The first section of the course focuses on the chemistry and function of amino acids, proteins, and enzymes, as well as the kinetics of enzymes. The second section will address the chemistry, function, and metabolism of carbohydrates; the citric acid cycle; electron transport; and oxidative phosphorylation. The final portion of this course will focus on the chemistry, function, and metabolism of lipids; nitrogen metabolism; nucleic acid and protein production; and metabolic regulation.

Text Book

Title	Lehninger Principles of Biochemistry
Author(s)	David L. Nelson, Michael M. Cox
Edition	8th Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Textbook of BIOCHEMISTRY With Clinical Correlations	Thomas M. Devlin	7th Edition	

Instructor

Name	Dr. NOSAYBA ALAZZAM
Office Location	M2 L-0
Office Hours	
Email	nzalazzam@just.edu.jo

Class Schedule & Room

Section 2:

Lecture Time: Thu : 09:00 - 12:00

Room: LAB

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Introduction to the course	
Week 2	Buffers, pH, water, physical properties of amino acids	From Ref #1
Week 3	Protein structure	From Ref #1
Week 4	Enzyme structure and kinetics	From Ref #1
Week 5	Bioenergetics and oxidative phosphorylation	From Ref #1 , From Ref #2
Week 6	Carbohydrate structure and glycolysis	From Ref #1 , From Ref #2
Week 7	Gluconeogenesis and TCA cycle	From Ref #1 , From Ref #2
Week 8	Glycogen metabolism	From Ref #1 , From Ref #2
Week 9	Monosaccharides, disaccharides, and PPP	From Ref #1
Week 10	Lipid structure and Synthesis	From Ref #1
Week 11	Fatty acid oxidation and phospholipids	From Ref #1 , From Ref #2
Week 12	Amino acids: Nitrogen disposal	From Ref #1 , From Ref #2
Week 13	Basics of signal transduction	

Relationship to Program Student Outcomes (Out of 100%)

SO1-ES	SLO2	SLO8

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