Jordan University of Science and Technology

Faculty of Science & Arts

Chemistry Department

CHEM262 Biochemistry
Summer Semester 2019-2020

Course Catalog
3 Credit Hours. This course deals with structure and properties of biomolecules, such as amino acids, proteins, carbohydrates, lipids, and nucleic acids. The focus of this course will be on the relationship between protein structure and its biological function, generation and storage of metabolic energy, main metabolic pathways and their key steps. In addition, the role of phospholipids in determining the properties of biological membranes and their function will be discussed

Text Book	
Title	ESSENTIAL BIOCHEMISTRY
Author(s)	C.W. Pratt and K. Cornely
Edition	3rd Edition
Short Name	BIOCHEMISTRY
Other Information	

Instructor	
Name	**Dr. Abdel Latif Ibdah**
Office Location	N4L0
Office Hours	
Email	aaibdah@just.edu.jo

Instructor	
Name	**Dr. Ayat Bani Rashaid**
Office Location	-

Office Hours	Sun : 09:00 - 10:00 Sun : 14:00 - 15:00 Mon : 14:00 - 15:00 Tue : 09:00 - 10:00 Tue : 14:00 - 15:00 Wed : 15:00 - 16:00
Email	ahbanirashaid@just.edu.jo

Instructor	
Name	**Dr. Barakat Shabsoug**
Office Location	N2L0
Office Hours	
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Class Schedule & Room

Section 1:
Lecture Time: Sun, Mon, Tue, Wed : 10:00 - 11:30
Room: منصة الكترونية

Section 2:
Lecture Time: Sun, Mon, Tue, Wed : 11:30 - 13:00
Room: منصة الكترونية

Section 3:
Lecture Time: Sun, Mon, Tue, Wed : 08:30 - 10:00
Room: منصة الكترونية

Section 4:
Lecture Time: Sun, Mon, Tue, Wed : 13:00 - 14:30
Room: منصة الكترونية

Section 5:
Lecture Time: Sun, Mon, Tue, Wed : 14:30 - 16:00
Room: منصة الكترونية

Section 6:
Lecture Time: Sun, Mon, Tue, Wed : 08:30 - 10:00
Room: منصة الكترونية

Section 7:
Lecture Time: Sun, Mon, Tue, Wed : 14:30 - 16:00
Room: منصة الكترونية

Prerequisites

Line Number	Course Name	Prerequisite Type
912120	CHEM212 Organic Chemistry (2)	Prerequisite / Pass
931030	BIO103 General Biology	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Aqueous Chemistry	
Week 2	Protein Structure	
Week 3	Protein Structure	
Week 4	How Enzymes Work?	
Week 5	Enzyme Kinetics and Inhibition	
Week 6	Lipids Membranes	
Week 7	Membrane Transport	
Week 8	Carbohydrates	
Week 9	Metabolism and Bioenergetics	
Week 10	Glucose Metabolism	
Week 11	The Citric Acid Cycle	
Week 12	Electron Transport and Oxidative Phosphorylation	
Week 13	Lipid Metabolism	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
To learn the structure and functions of proteins (amino acids, enzyme kinetics and inhibitors) [1a, 1e]	20%	First exam
To study the various properties of water as a biological solvent. [1a]	10%	First exam, Final exam
To study the structure and function of lipids and carbohydrates macro molecules [1a, 1e]	30%	Second exam, Final exam
To study the metabolism of macro-molecules (gluconeogenesis, glycolysis, citric acid cycle, electron transport and oxidative phosphorylation) [1a, 1e]	40%	Final exam

Relationship to Program Student Outcomes (Out of 100%)										
a	b	c	d	e	f	g	h	i	j	k
55				45						

Evaluation	
Assessment Tool	**Weight**
First exam	25%

Second exam	25%
Final exam	50%

Date Printed: 2020-09-24