Jordan University of Science and Technology

Faculty of Applied Medical Sciences

Allied Medical Sciences Department

LM713 Molecular And Cellular Pathogenesis - JNQF Level: 7

First Semester 2024-2025

Course Catalog
2 Credit Hours. LM713 introduces the major mechanisms of cell- cell communication and cell signaling pathways, and how these pathways are interrupted in selected diseases. This course explores different disease mechanisms at the molecular and cellular levels in the following diseases; Alzheimer?s, Parkinson?s, Systemic sclerosis, Malaria, Hepatitis C virus infection, Type 2 diabetes, diabetic retinopathy, Atherosclerosis and Breast cancer.
Teaching Method: On Campus

Text Book	
Title	Molecular biology of the cell
Author(s)	Alberts
Edition	7th Edition
Short Name	Book
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Review articles	Electronic references	Multiple	30th Edition	

Instructor	
Name	**Dr. MARYA OBEIDAT**
Office Location	-
Office Hours	Sun : 10:00 - 11:00 Tue : 09:00 - 10:00 Wed : 11:00 - 13:00 Thu : 10:00 - 12:00
Email	mmobeidat82@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue : 11:30 - 12:30 Room: LAB

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Introduction and Mechanisms of cell communication 1	
Week 2	Mechanisms of cell communication 2	
Week 3	Pathogenesis of Alzheimer?s	
Week 4	Pathogenesis of Parkinson?s	
Week 5	Student presentations 1	
Week 6	Pathogenesis of systemic sclerosis	
Week 7	Pathogenesis of Malaria	
Week 8	Student presentation 2	
Week 9	Pathogenesis of HCV	
Week 10	Pathogenesis of Type 2 diabetes	
Week 11	Pathogenesis of Diabetic retinopathy	
Week 12	Student presentation 3	
Week 13	Pathogenesis of Atherosclerosis	
Week 14	Pathogenesis of Breast cancer	
Week 15	Student Presentation 4	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Present an understanding of the main mechanisms that regulate cellular communications via specific signaling pathways. [1MSLO1] [1L7K1]	30%	
Explain how changes in cellular processes and molecules' structures and functions contribute to disease development. [1MSLO1] [1L7K1]	30%	
Analyze the current research topics investigating molecular and cellular mechanisms of selected diseases. [1MSLO5] [1L7S2]	10%	
Develop skills of scientific synthesis required to study and target disease mechanisms at the molecular and cellular levels. [1MSLO6] [1L7S1]	20%	
Present the current research topics investigating molecular and cellular mechanisms of selected diseases. [1MSLO5, 1MSLO6] [1L7C1]	10%	

Relationship to Program Student Outcomes (Out of 100%)											
SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	MSLO1	MSLO2	MSLO3	MSLO4	MSLO5	MSLO6
						60				15	25

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S1	L7S2	L7C1
60	20	10	10

Evaluation	
Assessment Tool	**Weight**
Midterm	30%
Research article presentation	20%
Final exam	50%

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