



Jordan University of Science and Technology
Faculty of Science & Arts
Biotechnology & Genetic Engineering Department

BT492C Selected Topics In Biotechnology (C) - JNQF Level: 7

Second Semester 2023-2024

Course Catalog

1 Credit Hours. Cell cycle regulation is a fundamental process that controls the growth and division of cells. It ensures that cells divide at the right time, in the right place, and with the right frequency. Special topics in cell cycle regulation examine the complex mechanisms that govern this process, exploring various factors and signals that influence cell division.

Teaching Method: On Campus

Text Book

Title	Review and original research articles in cell cycle regulations
Author(s)	NA
Edition	1st Edition
Short Name	Reference
Other Information	

Instructor

Name	Dr. OSAMAH BATIHA
Office Location	Ph1L1, Ext 23466
Office Hours	
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Class Schedule & Room

Section 1:
Lecture Time: Wed : 13:00 - 14:00
Room: SF08

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2	Topic 1: Introduction to cell cycle regulation mechanisms	Review Article 1 From Reference
Weeks 3, 4	Topic 2: Checkpoints in the Cell Cycle: G1/S Checkpoint:	Review Article 2 From Reference
Weeks 5, 6	Topic 3: G2/M Checkpoint	Review Article 3 From Reference
Weeks 7, 8	Topic 4: Spindle Assembly Checkpoint:	Review Article 4 From Reference
Week 9	Topic 5: Cyclins and Cyclin-Dependent Kinases (CDKs): Role of Cyclins:	Review Article 5 From Reference
Week 10	Topic 6: CDK Activation and Inhibition	Review Article 6 From Reference
Weeks 14, 15	Topic 7: Mitotic Spindle Checkpoints and Chromosome Segregation: Aneuploidy and Chromosome Mis-Segregation:	Review Article 7 From Reference

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Describe the molecular mechanisms underlying cell cycle checkpoints, including the roles of key proteins such as cyclins, cyclin-dependent kinases (CDKs), and tumor suppressors, in maintaining cell cycle fidelity and preventing aberrant cell division [1SLO1] [1L7K1]	30%	
understand the molecular regulation of the mitotic exit and the mechanisms that control the fidelity of it [1SLO1] [1L7K1]	20%	
Develop and enhance group working skills and the management of different tasks [1SLO4] [1L7C1]	20%	
Apply critical thinking skills to analyze and interpret scientific data related to cell cycle regulation, including experimental results, research findings, and complex signaling pathways. [1SLO4] [1L7C2]	30%	

Relationship to Program Student Outcomes (Out of 100%)					
SLO1	SLO2	SLO3	SLO4	SLO5	SLO6
50			50		

Relationship to NQF Outcomes (Out of 100%)		
L7K1	L7C1	L7C2
50	20	30

Evaluation

Assessment Tool	Weight
Midterm Exam	20%
Evaluation of papers discussion and participation	40%
Final exam	40%

Policy	
Teaching method	On campus power point lectures and presentations on selected related topics performed by students

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