



The Hashemite University
Faculty of Science
Course Description

Department : Biology and Biotechnology	
Year : 2017/2018	Semester : First

Course Information	
Course Title	Gene Expression
Course Number	4104326
Course Credits	3 credits
Course Time	Sunday and Tuesday 8-9
Course Duration	16 weeks
Prerequisite(s)	Molecular Biology (3104322)
Instructor	Dr. Seba Jamal Shbailat
Office Location	Bio. 202
Office Phone	4360
E- mail	seba.shbailat@hu.edu.jo

Textbook	
Title	Molecular Cell Biology
Author(s)	Lodish et al.
Publisher	Scientific American Books (W.H.Freeman)
Year	2013
Edition	7 th
Other references(s)	1-Lodish, H., Baltimore D., Berk, A., Zipursky L., Matsudaira, P., and Darnell J. 1996. Molecular Cell Biology. Scientific American Books, W.H. Freeman and company, NY.

Evaluation Policy		
Assessment	Expected Date	Weight

Type		
First Exam	7 th week	17%
Second Exam	13 th week	18%
Other		Lab 30%
Final Exam		35%

Course Objectives

- This course studies the process of gene expression and explores how the information in living cells flows from DNA to RNA to protein.
- Several topics will be covered including: the mechanisms of genome condensation, the transcription of DNA to mRNA, the processing of RNA, and translation of mRNA into protein.
- Regulation of gene expression in prokaryotic and eukaryotic cells as well as the mechanisms of post-transcriptional control in eukaryotes will also be discussed.
- Finally, the regulation of the eukaryotic cell cycle will be explained.

Teaching and Learning Methods

- 1-Lectures.
- 2-Accompanying lab that confirms and explains lectures' concepts.

Week	Topics	Ch. in Text
1	Basic molecular genetic mechanisms	4
2	Basic molecular genetic mechanisms	4
3	Genes, genomics and chromosomes	6
4	Genes, genomics and chromosomes	6
5	Control of gene expression in prokaryotes	11, 12-3 rd
6	Control of gene expression in prokaryotes	11, 12-3 rd
7	First exam Transcriptional control of gene expression (eukaryotic gene control)	7
8	Transcriptional control of gene expression (eukaryotic gene control)	7
9	Transcriptional control of gene expression (eukaryotic gene control)	7
10	Transcriptional control of gene expression (eukaryotic gene control)	7

11	Post-transcriptional gene control	8
12	Post-transcriptional gene control	8
13	Second exam The eukaryotic cell cycle	19
14, 15	The eukaryotic cell cycle	19
16	revision	
