The Hashemite University

COURSE SYLLABUS

COURSE NAME : Recombinant DNA Technology
COURSE NUMBER : 1801042325
SEMESTER/YEAR :
INSTRUCTOR : Dr. Salem Al-Maloul
Office location : Room 107
Office hours :
Lectures' Location :
Laboratory :
Course Information

Course Meeting Times (Theory)				
Sun.	**Mon.**	**Tues.**	**Wed.**	**Thur.**

Course Meeting Times (Practice)					
Session	**Sun.**	**Mon.**	**Tues.**	**Wed.**	**Thur.**

Course prerequisites and requirements:

Course name	Course number
Molecular Biology	1801042322

Description of the course:

This course will provide students with a 'hands on' introduction to modern molecular biology techniques, specifically recombination techniques including DNA and plasmid isolation from eukaryotic and prokaryotic cells, respectively, cellular and plasmid DNAs purification, restriction digest and gel electrophoresis, bacterial transformation, reverse transcription, and polymerase chain reaction (PCR and RT-PCR), and cloning DNA fragments. The lectures and assigned readings will cover the theory and applications of these molecular techniques.

Course Objectives:

1. Provide 'hands on' experience in performing basic recombinant DNA techniques.
2. Introduce students to the theory behind each technique and to describe common applications of each methodology in biological research.

Learning Resources

Main text book: Gene Cloning and DNA Analysis: An Introduction, 6th ed., T. A. Brown, 2010, Wiley-Blackwell.

Subsidiary books: Molecular Cloning: A laboratory manual 3rd ed., J. Sambrook & D. Russell, Cold Spring Harbor Laboratory Press, 2001.

Course Requirements and Grading

Student assessment:

Mid-Term Exam : 30 pts
Mid-Term Lab Exam: 30 pts
Final Exam : 30 pts
Final Lab Exam : 10 pts
Total :100 pts

Note: Date of the final exam will be announced by the Deanship of Administration & Registration.

Attendance

Attendance will be strictly enforced according to the current university regulations.

Detailed Course Schedule

Tentative Course Outline

Week	Chapter	Topic	Homework Problems
1	-	Orientation (Theory and Laboratory Practice)	
2	1	Importance of Gene Cloning	
3	2	Vehicles: Plasmids	
4	2	Vehicles: Bacteriophages	
5	3	Purification of DNA from Living Cells	
6	3	Purification of DNA from Living Cells	
7	4	Manipulation of Purified DNA	
8	4	Manipulation of Purified DNA	
	Mid-Term Exams: To be announced later.		
9	5	Introduction of DNA into Living Cells	
10	6	Cloning Vectors for E. coli	
11	7	Cloning Vectors for Higher Organisms	
12	8	Obtaining a Clone of a Specific Gene	
13	9	Studying a Cloned Gene	
14	10	Applications of Gene Cloning in Biotechnology	
FINAL LAB. EXAM: To be announced later.			
FINAL EXAM: To be announced by the Registrar			