STANDARD COURSE OUTLINE

Annex 3

Hashemite University		Advanced Molecular Biology (130104721)
Faculty of Science	Course Syllabus	Pre-requisite:
Department of Biology and Biotechnology		

Course Information	
Lecture's Time	02:30-05:30 pm (Wed.)
Lecture Room	Bio 232
Instructor	Dr. Salem Maloul
Office Location	Bio 107
Office Hours	
Text Book: Essentials of Molecular Biology 4th ed., G.M. Malacinski, Jones & Bartlett	
References(s)	

Grading Policy:

Theory		**Practical**
1st Exam	30 %	Quizzes __%
2nd Exam	30 %	Midterm -%
Other	__%	Reports __%
Final Exam	40%	

Course Objectives

In this course, emphasis on gaining knowledge about the nature of macromolecules (Proteins and Nucleic Acids) and understanding the interactions that make them up. The course also highlights the various cellular activities carried out and involved the genetic material (i.e., DNA). These cellular activities include DNA replication, transcription, translation, mutagenesis and mutations, and DNA repair mechanisms in both prokaryotes and eukaryotes. At the end of this course, the following objectives should be achieved:

- Understanding of the nature of proteins and nucleic acids.
- Understanding the factors that determine the 3-dimensional structure of macromolecules.
- Understanding the relationship that exists between proteins and DNA
- Understanding the aspects of the biological dogma.
- Understanding the aspects of changes that occur to the genetic material and the mechanisms of repair.

Teaching and Learning Methods

Lectures, Power point Slides, Films, and Articles.

Course Contents

Week	Topic
1	Orientation (Theory and Laboratory Practice)
2	Macromolecules
3	Nucleic Acids I
4	Nucleic Acids II
5	The Physical Structure of Protein Molecules
6	First Exam
7	Macromolecular Interactions & The Structure of Complex Aggregates
8	The Genetic Material
9	DNA Replication
10	Transcription I
11	Transcription II
12	Second Exam
13	Translation

14	Mutations, Mutagenesis
15	DNA Repair
16	Final Examination