



وكالة الجامعة للشؤون التعليمية
البرامج الدراسية والتطوير

(5)

مختصر توصيف

الأحياء الجزيئية

(Course Syllabus)

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Module Title:	Molecular Biology
Module ID:	
Prerequisite (Co-requisite) :	
Co-requisite :	
Course Level:	
Credit Hours:	

:(Course Information) *

Module Description

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Molecular biology studies the relationship between the structure and function of biological molecules and how these relationships contribute to the operation and control of biochemical processes. Of principal interest are the macromolecules and macromolecular complexes of DNA, RNA and protein and the processes of replication, transcription and translation. The new experimental technologies involved in manipulating these molecules are central to modern molecular biology. Not only does it yield fundamental information about the molecules, but it has tremendous practical applications in the development of new and safe products such as therapeutics, vaccines and foodstuffs, and in the diagnosis

of genetic disease and in gene therapy.

Module Aims

أهداف المقرر :

1	protein Study the structure of biological molecules like DNA, RNA and	1
2	Study how the biological molecules perform the molecular function necessary for biological processes	2
3	Study the technologies that allow the characterization of those molecules	2

Learning Outcomes:

مخرجات التعليم:

1	Student will be familiar with the structure of DNA, RNA and protein	1
2	Students will be familiar with how the molecules perform their functions	2
3	Student will be familiar with the applications needed for the study of the biological molecules	3
4	Students will be familiar with the manipulations of biological molecules	4

Course :

Contents:

ساعات التدريس (Hours)	الأسابيع (Weeks)	(Subjects)
2	1	Cells and macromolecules

2	1	Protein structure
2	1	Properties of nucleic acids
2	1	Prokaryotic and eukaryotic chromosome structure
2	1	DNA replication
2	1	DNA damage, repair and recombination Gene manipulation
2	1	Cloning vectors
2	1	Gene libraries and screening
4	2	Functional genomics and new technologies
4	2	Bioinformatics

Textbook and References:

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ISBN	Publishing Year	Publisher	اسم المؤلف (رئيسي) Author's Name	Textbook title
0-415-35167-7	2010	Taylor and Frances	Phil Turner	Instant notes of Molecular Biology
	Publishing Year	Publisher	اسم المؤلف (رئيسي) Author's Name	Reference
13 978-0-470-48337-4	2010	Wiley	Gerald Karp	Molecular and cell bioilgy
13: 978-0815344322	2014	Garland Science	Bruce Albert	Molecular biology of the cell

