جامعة المجمعة
Majmaah University

وكالة الجامعة للشؤون التعليمية
إدارة البرامج الدراسية والتطوير

نموذج (5)

مختصر توصيف مقرر

المعلوماتية الحيوية

(Course Syllabus)

معلومات المقرر * (Course Information):

اسم المقرر:	
رقم المقرر:	
اسم ورقم المتطلب السابق:	
اسم ورقم المتطلب المرافق:	
مستوى المقرر:	
الساعات المعتمدة:	

Module Title:	Bioinformatics المعلوماتية الحيوية
Module ID:	
Prerequisite (Co-requisite) :	
Co-requisite :	
Course Level:	
Credit Hours:	

وصف المقرر : Module Description

Bioinformatics combined the knowledge and expertise of to major fields; Biology and computer science. In this course students will be exposed to variety of topics that would allow them to apply computer skills to what they have learnt in previous two courses: Molecular Biology and Genomics. This course teaches students the concepts and the computers skills needed to better understand the sequence and structure of DNA, RNA and proteins and how this is reflect the diversity of the living creatures. Therefore, student will be able to perform compare the genomes of different species and also to build phylogenetic tree.

Module Aims **أهداف المقرر :**

1	of biological databases Study the different types	
2	Study how to perform sequence alignment	
3	Study how to predict gene ORF and promoter; and protein motif and domain	
4	Study how to build molecular phylogenetic tree	
5	Study how to visualize, camper and classify protein structure	
6	Study how assemble, map and compare genome	

Learning Outcomes: **مخرجات التعليم:**

1	Students will be familiar with the different types of biological databases	1
2	Student will be familiar with how to perform sequence alignment	2
3	Student will learn how to predict gene ORF and promoter; and protein domain and motif	3
4	Student will learn how to build phylogenetic tree	4
5	Student will learn how to visualize, compare and classify protein structure	4
6	Student will learn how to assemble, compare and map genome	4

Course Contents: :محتوى المقرر

ساعات التدريس (Hours)	عدد الأسابيع (Weeks)	قائمة الموضوعات (Subjects)
2	1	Biological Databases

2	1	Sequence Alignment
2	1	Basic Local Alignment Search Tool (BLAST) and FASTA
4	2	Protein Motifs and Domain Prediction
4	2	GENE AND PROMOTER PREDICTION
4	2	MOLECULAR PHYLOGENETICS
4	2	Protein Structure Visualization, Comparison, and Classification
2	1	RNA Structure Prediction
4	2	Genome Mapping, Assembly, and Comparison

الكتب المقرر والمراجع المساندة: Textbook and References:

ISBN	سنة النشر Publishing Year	اسم الناشر Publisher	اسم المؤلف (رئيسي) Author's Name	اسم الكتاب المقرر Textbook title
13 978-0-521-84098-9	**2006**	Cambridge University Press	Jin Xiong	Essential Bioinformatics
	سنة النشر **Publishing Year**	**اسم الناشر** **Publisher**	**اسم المؤلف (رئيسي)** **Author's Name**	**اسم المرجع** **Reference**
1-85996-054-5	**2005**	BIOS Scientific	C.A. Orengo	**,Bioinformatics gene: protein and computre**
0-19925-196-7	**2002**	Oxford University Press	Arther Lesk	Introduction to Bioinformatics