

معلومات المقرر * (Course Information):

اسم المقرر:	كيمياء حيوية تحليلية
رقم المقرر:	CHM363
اسم ورقم المتطلب السابق:	CHM361 ، كيمياء حيوية (1)
اسم ورقم المتطلب المرافق:	لا يوجد
مستوى المقرر:	المستوى السادس
الساعات المعتمدة:	2
Module Title:	Bioanalytical chemistry
Module ID:	CHM•363
Prerequisite (Co-requisite) :	CHM361, Biochemistry -1
Co-requisite :	No requests
Course Level:	Level 6
Credit Hours:	2 Credit Hours

Module Description

وصف المقرر :

This course describes modern methods of bioanalytical chemistry in their application to the analysis of biological polymers. Analytical aspects of genomics and proteomics are considered. Two lecture hours per week. One term. 2 Credit hours. Prerequisites CHEM-361

Module Aims

أهداف المقرر :

1 This course describes modern methods of bioanalytical chemistry and their application





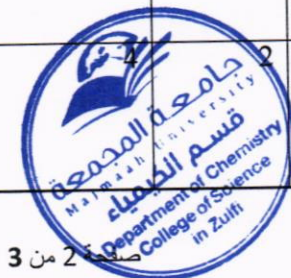
Learning Outcomes: On completion of the course students will be able to

1	Describe the general principles of Analytical Biochemistry	
2	Outline the most important bioanalysis methods.	
3	Apply knowledge and skill to solve problems relating to course concepts	
4	Select the appropriate separation method for specific problem	
5	Work independently and as part of a team	
6	Demonstrate the ability to use library resources and scientific databases to obtain information about a topic, chemical, chemical technique, or an issue relating to chemistry	

Course Contents:

محتوى المقرر:

ساعات التدريس (Hours)	عدد الأسابيع (Weeks)	قائمة الموضوعات (Subjects)
4	2	Structural levels of proteins and nucleic acids. Physical-chemical properties of proteins and nucleic acids, which can be used for their analysis
4	2	Using light for detection. Properties of light. Light absorbance. Fluorescence. Phosphorescence. Quenching of fluorescence. Fluorescence energy transfer
4	2	Capillary electrophoresis: separation methods for analyses of protein and nucleic acids
4	2	Kinetic studies of protein-ligand interaction. Enzymatic reactions: enzyme kinetics, enzymes as targets and labels. Quantitation of enzymes and substrates. Enzyme inhibitors. Methods for screening enzyme inhibitors.
		Protein-ligand interactions. Equilibrium parameters of the interactions. Affinity methods: kinetic capillary electrophoresis, surface plasmon resonance



3 من 2



4	2	Bioconjugate techniques. Chemistry of protein modification
4	2	Chromatography of biomolecules. Liquid chromatography for bioanalysis. Affinity chromatography
2	1	Biosensors
30	15	

Textbook and References:

الكتاب المقرر والمراجع المساندة:

ISBN	سنة النشر Publishing Year	اسم الناشر Publisher	اسم المؤلف (رئيسي) Author's Name	اسم الكتاب المقرر Textbook title
ISBN-13: 978-1118302545	2016	Wiley; 2 edition (March 7, 2016)	Susan R. Mikkelsen, Eduardo Cortón	Bioanalytical Chemistry, 2nd Edition
ISBN	سنة النشر Publishing Year	اسم الناشر Publisher	اسم المؤلف (رئيسي) Author's Name	اسم المرجع Reference
ISBN-13: 978-1783266722	2015	Imperial College Press; 2 edition (July 24, 2015)	Andreas Manz	Bioanalytical Chemistry: 2nd Edition

* يتم تعبئة معلومات المقرر فقط باللغتين العربية والانجليزية وباقي المعلومات بلغة التدريس المعتمدة ويكرر لكل مقرر في الخطة الدراسية

* Course Information should be filled in Arabic and English. Other information should be filled using the approved teaching language at the college.



