

توصيف مقرر دراسي

١ - بيانات المقرر		
الرمز الكودي : <b>CHEM212</b>	إسم المقرر: <b>Physical &amp; Inorganic and analytical Chemistry</b>	المستوى : الثاني (بيولوجي)
التخصص: علوم البيئة	عدد الوحدات الدراسية: ٩	نظري ٤    تمارين ١    عملي ٤
٢ - هدف المقرر:		For students undertaking this course, the aims are to: <ul style="list-style-type: none"> <li>• Study the first and second laws of thermodynamics.</li> <li>• Study the physical and chemical properties of elements of groups I-VIIA and their compounds.</li> <li>• Enable the students to use volumetric analysis methods.</li> <li>• Acquiring the student the neutralization and precipitation analytical methods.</li> </ul>
٣ - المستهدف من التدريس المقرر:		
أ- المعلومات والمفاهيم:	a- Knowledge and Understanding : On completing this course, students will be able to: <ul style="list-style-type: none"> <li>a1- define the basic concepts of thermodynamics.</li> <li>a2- mention the different volumetric analysis methods.</li> <li>a3- list the different elements and compounds of groups I-VIIA.</li> </ul>	
ب- المهارات الذهنية	b- Intellectual Skills: On completing this course, students will be able to: <ul style="list-style-type: none"> <li>b1- apply different volumetric analysis methods.</li> <li>b2- distinguish different elements and compounds of groups I-VIIA.</li> <li>b3- apply first and second laws of thermodynamics.</li> </ul>	
ج- المهارات المهنية الخاصة بالمقرر:	c-Professional and Practical Skills: On completing this course, students will be able to: <ul style="list-style-type: none"> <li>c1- experimentally estimate acids and bases.</li> <li>c2- Apply precipitation reactions' experiments to estimate elements of sparingly soluble compounds.</li> <li>c3- deal safely with lab-ware.</li> </ul>	
د- المهارات العامة :	d-General and Transferable Skills: On completing this course, students will be able to: <ul style="list-style-type: none"> <li>d1- work effectively both in a team, and independently on solving chemistry problems.</li> <li>d2- Apply IT and search for information.</li> <li>d3- communicate effectively with his teacher and colleagues.</li> <li>d4- exhibit the sense of beauty and neatness.</li> </ul>	
٤ - محتوى المقرر:	Physical chemistry: <ul style="list-style-type: none"> <li>• First law of thermodynamics</li> <li>• Second law of thermodynamics</li> </ul> Inorganic Chemistry: <ul style="list-style-type: none"> <li>○ Inert gases- detailed study of hydrogen and elements of groups I-VIIA and their compounds.</li> </ul> Analytical chemistry: <ul style="list-style-type: none"> <li>○ Volumetric analysis- General principles</li> </ul>	

<ul style="list-style-type: none"><li>○ Calculations- Equivalent weights</li><li>○ Primary standard substances</li><li>● Neutralization- Precipitation methods</li></ul> <p>Practical: Neutralization reactions -Precipitation reactions.</p>			
4 -١. Lectures using board 4 -٢. Problem classes and group tutorial 4 -٣. Home works, reports and discussion groups 4 -٤. Laboratory work			٥ - أساليب التعليم والتعلم:
The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.			٦ - أساليب التعليم والتعلم للطلاب ذوي القدرات المحدودة:
			٧ - تقويم الطلاب :
<i>Student Assessment Methods</i>			أ - الأساليب المستخدمة :
Final exam	to assess	a1-a3, b1-b3	
Oral exam	to assess	a1-a3, b1-b3	
Practical exam	to assess	c1-c3,d1,d4	
Quizzes	to assess	a1-a3, b1-b3	
Report	to assess	d1-d3	
<b>Assessment Schedule</b>			ب - التوقيت :
Assessment 1	Week #	14	
Assessment 2	Week #	14	
Assessment 3	Week #	12	
Assessment 4	Week #	4, 8, 12	
Assessment 5	Week #	10	
<i>Weighting of Assessments</i>			ج - توزيع الدرجات :
Final-Term Examination	70		
Oral Examination	10		
Practical Examination	20		
Semester work	0		
Other types of assessment	0		
Total	100		
			٨ - قائمة الكتب الدراسية والمراجع :
Physical chemistry, Analytical Chemistry, Inorganic Chemistry authorized and issued by the department			أ - مذكرات:
Physical chemistry. <b>Fried Homeka, Blukis</b>			ب - كتب ملزمة
Physical chemistry . <b>Atkines</b>			ج - كتب مقترحة :
www.chemweb.com			د - دوريات علمية أو نشرات..

## (أ) مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
<b>Physical chemistry:</b>					
• First law of thermodynamics	1-6	a1	b3		d2,d3
• Second law of thermodynamics	7-14	a1	b3		d1,d3
<b>Inorganic Chemistry:</b>					
○ Inert gases- detailed study of hydrogen and elements of groups I-VIIA and their compounds.	٢-14	a3	b2	c2	d2,d3
<b>Analytical chemistry:</b>					
○ Volumetric analysis- General principles	1-3	a2	b1		
○ Calculations- Equivalent weights	4-6	a2	b1	c1	d2,d3
○ Primary standard substances	7-9	a2	b1	c1	d2,d3
• Neutralization- Precipitation methods	10-14	a2	b1	c1	d2,d3
<b>Practical: Neutralization reactions - Precipitation reactions.</b>	٢-١١			c1,c2,c3	d1,d4

أستاذ المقرر: أ.د. جابر أبو الريش

رئيس مجلس القسم العلمي : أ.د. أحمد فوزي العاصمي