



وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد الدولي

استمارة وصف البرنامج الأكاديمي للدراسة
الأولية لقسم الكيمياء للعام الدراسي
2024-2025 حسب مسار بولونيا



وصف البرنامج الأكاديمي

اسم الجامعة : جامعة بابل

الكلية/ المعهد: كلية العلوم للبنات

اسم البرنامج الأكاديمي او المهني : بكالوريوس علوم الكيمياء

اسم الشهادة النهائية : بكالوريوس في الكيمياء

النظام الدراسي : مسار بولونيا

تاريخ اعداد الوصف : 2025/10 /8

تاريخ ملء الملف : 2024 /10 /14

التوقيع:

اسم معاون العلمي: أ.د. كوثر محمد علي حسن

التاريخ 2024 / 10 / 14

التوقيع:

اسم رئيس قسم: ا.د. حازم يحيى محمد علي

التاريخ 2024 / 10 / 14

دقق الملف من قبل

شعبة ضمان الجودة والأداء الجامعي

اسم مدير شعبة ضمان الجودة والأداء الجامعي : م.د. محمد جواد جادر

التاريخ 2024 / 10 / 14

مصادقة السيد العميد

التاريخ 2024 / 10 / 14



مقدمة وصف البرنامج الأكاديمي

يهدف برنامج البكالوريوس في قسم الكيمياء إلى إعداد كوادر علمية وبحثية مؤهلة تمتلك قاعدة معرفية متينة في مختلف اختصاصات الكيمياء كالتحليلية ، الفيزيائية ، الحياتية واللاعضوية والعضوية، قادره على النهوض ورفع المستوى العلمي في بلدنا الحبيب مع تركيز خاص على التقنيات المختبرية المتنوعة كالاشعة فوق البنفسجية والاشعة المرئية والفوق بنفسجية وغيرها. يوفر البرنامج للطلبة مزيجاً متكاملًا من الأساسيات النظرية والتدريب العملي المتقدم.

يمتاز البرنامج بوجود مختبرات متطورة مزودة بأحدث الاجهزه، ويعتمد على أسلوب تعلم قائم على المشاريع البحثية العملية، مما يعزز قدرة الطلبة على الابتكار وحل المشكلات العلمية والتقنية المعقدة، ويؤهلهم للانخراط في البحث والتطوير أو العمل في القطاعات المتقدمة.

يخضع المنهج لمراجعة دورية لضمان توافقه مع المعايير الأكاديمية الدولية وتطورات سوق العمل، ويشمل فرص تدريب ميداني ، مما يمنح الخريجين ميزة تنافسية في مجالات العمل أو مواصلة الدراسات العليا في أرقى الجامعات العالمية.

نموذج وصف البرنامج الأكاديمي

1. رؤية البرنامج

أعداد كادر علمي وتقني متخصص بتقنيات التحليلات الكيميائية مع قدره على التعامل وبمهنه عاليه مع كافة التقنيات بالتحليلات الكيميائية ومنها التحليلات المهتمه بمعالجه التلوث من المواد والعناصر الكيميائية الثقيله كالرصاص والزئبق التي تؤثر بحياه المواطنين. كذلك مساهمة القسم بحركة البحوث العلمية و المؤتمرات التعريفية و التطويرية و الاستشارية. تم اعتماد المناهج الموحده مع اغلب جامعات العراق -قسم الكيمياء لغرض سهوله التنقل بين الجامعات اضافاه للاستفاده العلمية منها ، مع مراعاة متطلبات الكلية ككلية علمية حسب مسار بولونيا .

2. رسالة البرنامج

يسعى قسم الكيمياء في كلية العلوم للبنات ، وتكاملا" مع رسالة الكلية في تلبية حاجات المجتمع من الكوادر المختصة في الكيمياء كالتحليلات المرضية واستخدام التقنيات الحديثة في مجال تحليل العناصر السامه وغير السامه في كافة التطبيقات العلمية والعملية خاصة في المجال الطبي والصناعي وما تطلبه ذلك من تهيئة الكوادر البحثية المتخصصة للعمل في هذا المجال ولمواكبة اخر التطورات فيه .

تحقيقا لرؤيا كلية العلوم للبنات و للقيام بدورها الريادي لتبوء مكانة علمية مرموقة بين الكليات المحلية و العربية و الأجنبية يسعى قسم الكيمياء إلى نشر و ترسيخ أحدث المعلومات عن الكيمياء في المجتمع العراقي لمواكبة التطور الهائل الذي تحقق خلال العقود الثلاثة الأخيرة في هذا المضمار وعلى كافة الأصعدة من النانو تكنولوجي و حتى الفضاء الخارجي

3. اهداف البرنامج

1. إعداد كوادر كفؤة في مجال علوم الكيمياء

2. المساهمة في تطوير الكوادر العاملة في مجال علوم الكيمياء في القطاعات المختلفة كصناعة الاسمدة والزيوت والالبان .

3. تطوير منظومة العمل في مجال اختصاص الكيمياء

4. نشر الوعي العلمي في مجال الكيمياء

5. احتساب العمل في المجال الصناعي ذو العلاقة بالكيمياء بموجب مواصفة الايزو

6. تكليف الطلبة بواجبات داخل وخارج الكلية

4. الاعتماد البرامجي

لا يوجد

5. المؤثرات الخارجية الاخرى

لا يوجد

هيكلية البرنامج

هيكلية البرنامج	عدد المقررات	وحدة دراسية	النسبة مئوية	الملاحظات
متطلبات المؤسسة	13	19	13.57%	اساسي
متطلبات الكلية	2	4	2.85%	اساسي
متطلبات القسم	46	117	83.57%	اساسي
التدريب الصيفي	لا يوجد	لا يوجد	/	/

7. وصف البرنامج

السنة / المستوى	رمز المقرر او المساق	اسم المقرر او المساق	الساعات المعتمدة	
			نظري	عملي

المرحلة الاولى

		Republic of Iraq - Ministry of Higher Education and Scientific Research					جمهورية العراق - وزارة التعليم العالي والبحث العلمي												
		University of Babylon					جامعة بابل												
		Bachelor's degree in chemistry science (First cycle)					بكالوريوس في علوم الكيمياء (الدورة الأولى)												
		Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr					أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة ائتمانية - كل وحدة ائتمانية = ٢٥ ساعة												
		Program Curriculum (2024 - 2025)					المناهج الدراسية للعام ٢٠٢٤-٢٠٢٥												
Level	Semeste	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se m	SSW L hr/se m	USSW L hr/se m	SWL hr/se m	ECTS	Modul e Type	Prerequisite Module(s) Code
							CL (hr/w)	ect (hr/w)	ab (hr/w)	Pr (hr/w)	Tut (hr/w)	emn (hr/w)							
One	1	CHEM1111	Qualitative Analysis Chemistry	كيمياء التحليل النوعي	English	2	0	2	0	0	0	3	63	137	200	8.00	C		
	2	CHEM1112	Inorganic1	اللاعضوية ١	English	2	0	0	0	0	0	3	33	142	175	7.00	C		
	3	CHEM1103	Cytology	علم الخلية	English	2	0	2	0	0	0	3	63	87	150	6.00	S		
	4	CHEM1104	Labortary Safty	السلامة والأمن الكيميائي	English	2	0	0	0	0	0	3	33	92	125	5.00	S		
	5	UOBAB1104	Human and Democracy	حقوق الانسان والديمقراطية	Arabic	2	0	0	0	0	0	3	33	17	50	2.00	B		
	6	UOBAB1102	Arabic Language	اللغة العربية	Arabic	2	0	0	0	0	0	3	33	17	50	2.00	B		
	Total						12	0	4	0	0	0	18	258	492	750	30.00		
UGI							SSWL (hr/w)						Exam hr/se m	SSW L hr/se m	USSW L hr/se m	SWL hr/se m	ECTS	Modul e Type	Prerequisite Module(s) Code
	Semeste	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	CL (hr/w)	ect (hr/w)	ab (hr/w)	Pr (hr/w)	Tut (hr/w)	emn (hr/w)							
	Two	1	CHEM1201	Volumetric Analysis Chemistry	كيمياء التحليل الحجمي	English	2	0	2	0	0	0	3	63	137	200	8.00	C	CHEM1111
		2	CHEM1202	Inorganic 2	اللاعضوية ٢	English	2	0	0	0	0	0	3	33	142	175	7.00	C	CHEM1112
		3	CHEM1203	Mathematics I	رياضيات I	English	2	0	0	0	0	0	3	33	67	100	4.00	S	
		4	CHEM1204	Physics Science	الفيزياء	English	2	0	2	0	0	0	3	63	87	150	6.00	S	
		5	UOBABb4	Computer I	حاسوب I	Arabic	2	0	0	0	0	0	3	33	42	75	3.00	B	
6		UOBABb1101	English Language I	لغة الانكليزية I	English	2	0	0	0	0	0	3	33	17	50	2.00	B		
Total						12	0	4	0	0	0	18	258	492	750	30.00			

المرحلة الثانية

		Republic of Iraq - Ministry of Higher Education and Scientific Research					جمهورية العراق - وزارة التعليم العالي والبحث العلمي																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		University of Babylon					جامعة بابل																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		Bachelor's degree in chemistry science (First cycle)					بكالوريوس في علوم الكيمياء (الدورة الأولى)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr					أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة ائتمانية - كل وحدة ائتمانية = ٢٥ ساعة																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		Program Curriculum (2024 - 2025)					المناهج الدراسية للعام ٢٠٢٤-٢٠٢٥																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSVL (hr/w)						Exam hr/sem	SSVL hr/sem	U\$SSVL hr/sem	SVL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	semin (hr/w)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
One		1	CHEM2311	Chemistry of represented elements 1	كيمياء العناصر الممتثلة ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		2	CHEM2302	Gravimetric analysis	التحليل الوزني	English	2	0	2	0	0	0	3	63	87	150	6.00	C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		3	CHEM2313	Thermodynamics1	الديناميية الحرارية ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		4	CHEM2314	Organic Chemistry1	الكيمياء العضوية ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		5	CHEM2305	Differential equations	المعادلات التفاضلية	English	2	0	0	0	0	0	3	33	42	75	3.00	S																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		6		Computer 2	الحاسوب ٢	English	2	0	0	0	0	0	3	33	42	75	3.00	S																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

المرحلة الثالثة

University of Babylon Bachelor's degree in chemistry science (First cycle) Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr Program Curriculum (2025 - 2026)							جامعة بابل بكالوريوس في علوم الكيمياء (الدورة الأولى) أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوروبية - كل وحدة اوروبية = ٢٥ ساعة المنهاج الدراسي للعام ٢٠٢٥-٢٠٢٦														
Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)							Exam	SSWL	USSWL	SWL	ECTS	Module	Prerequis	
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem	Type	Module(s)			
	One	1	CHEM3501	Electrochemistry	الكيمياء الكهروكاثية	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		2	CHEM3502	Coordination chemistry1	الكيمياء التناسقية ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		3	CHEM3503	Organic Chemistry 3	الكيمياء العضوية ٣	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		4	CHEM3504	Biochemistry1	الكيمياء الحياتية ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		5	CHEM3505	Industrial Chemistry	الكيمياء الصناعية	English	2	0	0	0	0	0	3	33	67	100	4.00	B			
		6	CHEM3506	Environmental Chemistry	كيمياء البيئة	English	2	0	0	0	0	0	3	33	17	50	2.00	S			
	Total							12	0	8	0	0	0	18	318	432	750	30.00			
UGI	Two	1	CHEM3601	Chemical kinetics	الكيمياء الحركية	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		2	CHEM3602	Coordination chemistry2	الكيمياء التناسقية ٢	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		3	CHEM3603	Organic Chemistry 4	الكيمياء العضوية ٤	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		4	CHEM3604	Biochemistry2	الكيمياء الحياتية ٢	English	2	0	2	0	0	0	3	63	87	150	6.00	C			
		5	CHEM3605	Industrial chemistry applications	تطبيقات الكيمياء الصناعية	English	2	0	0	0	0	0	3	33	17	50	2.00	B			
		6	CHEM3606	Research Methodology	منهج بحث	Arabic	2	0	0	0	0	0	3	33	17	50	2.00	S			
	Total							14	0	8	0	0	0	18	351	399	750	30.00			
CHEM3607							Nanotechnology	كيمياء النانو	English	2	0	0	0	0	3	33	17	50	2.00	B	

المرحلة الرابعة

Republic of Iraq - Ministry of Higher Education and Scientific Research University of Babylon Bachelor's degree in chemistry science (First cycle) Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr Program Curriculum (2026 - 2027)							جمهورية العراق - وزارة التعليم العالي والبحث العلمي جامعة بابل بكالوريوس في علوم الكيمياء (الدورة الأولى) أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوروبية - كل وحدة اوروبية = ٢٥ ساعة المنهاج الدراسي للعام ٢٠٢٦-٢٠٢٧													
Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)							Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Sem (hr/w)	3em (hr/w)							
UGI	One	1	CHEM4701	Instrumental analysis 1	التحليل الآلي ١	English	2	0	2	0	0	0	0	3	63	87	150	6.00	C	
		2	CHEM4702	Clinical Biochemistry1	الكيمياء السريرية ١	English	2	0	2	0	0	0	0	3	63	87	150	6.00	C	
		3	CHEM4703	Quantum Chemistry	كيمياء الكم	English	2	0	0	0	0	0	0	3	33	67	100	4.00	C	
		4	CHEM4704	Photochemistry	كيمياء الضوء	English	2	0	0	0	0	0	0	3	33	67	100	4.00	C	
		5	CHEM4705	Polymer Chemistry	كيمياء البوليمرات	English	2	0	2	0	0	0	0	3	63	87	150	6.00	B	
		6	CHEM4706	Research project	مشروع بحث تخرج	Arabic	2	0	0	0	0	0	0	3	33	67	100	4.00	B	
		Total							12	0	8	0	0	0	18	510	290	800	30.00	
UGI	Two	1	CHEM4801	Instrumental analysis 2	التحليل الآلي ٢	English	2	0	2	0	0	0	0	3	63	87	150	6.00	C	
		2	CHEM4802	Clinical Biochemistry2	الكيمياء السريرية ٢	English	2	0	2	0	0	0	0	3	63	87	150	6.00	C	
		3	CHEM4803	Spectroscopy	الاطياف الجزيئية	English	2	0	0	0	0	0	0	3	33	42	75	3.00	C	
		4	CHEM4804	Identification of organic chemistry	التشخيص العضوي	English	2	0	3	0	0	0	0	3	78	97	175	7.00	C	
		5	CHEM4805	Petroleum Chemistry	كيمياء النفط	English	2	0	2	0	0	0	0	3	63	87	150	6.00	B	
		6	CHEM4806	Hetrocyclic	حلقية غير متجانسة	English	2	0	0	0	0	0	0	3	33	17	50	2.00	B	
		Total							12	0	9	0	0	0	18	333	417	750	30.00	

8. مخرجات التعلم المتوقعة للبرنامج

المعرفة

- المعرفة والفهم
1. أن يتعرف الطالب على مفهوم الكيمياء
 2. أن يتعرف الطالب على مفهوم مسار بولونيا
 2. أن يصنف الاحتياجات لتطوير الكيمياء
 3. أن يفصل المواصفة الكيميائية حسب نظام الايزو
 4. أن يقيم كلفة صيانة معدات التصنيع الكيميائي

المهارات

- المهارات الخاصة بالموضوع
1. معرفة الطالب لمفهوم الكيمياء
 2. أهمية الكيمياء في مجالات الحياة
 3. تمكين الطالبات من تحاليل تكاليف العمل في مجال الصناعات الكيميائية
- مهارات التفكير
1. مهارة التفكير حسب قدرة الطالب (الهدف من هذه المهارة هو أن يعتقد الطالب بما هو ملموس (قدرات الطالب) وفهم متى وماذا وكيف يجب أن يفكر ويعمل على تحسين القدرة على التفكير بشكل معقول)
 2. مهارة التفكير العالية (الهدف من هذه المهارة هو تعليم التفكير جيدا قبل يتخذ القرار الذي يحدد حياة الطالب)
 3. مهارات التفكير الناقد (هي مصطلح يرمز لأعلى مستويات التفكير والتي يهدف إلى طرح مشكلة ما ثم تحليلها

القيـم

- طرائق التقييم
- 1- Exams
 - 2- Learning Matrix (مصفوفة التعلم)
 - 3- Which Face (طريقة التعبير بالوجه)
 - 4- CAT (التغذية الراجعة من الطلاب)
 - 5- كوزات
 - 6- واجبات داخل الكلية
 - 7- واجبات خارج الكلية

9. استراتيجيات التعليم والتعلم

استراتيجيات التعلم

- 1- استراتيجيات التفكير حسب قدرة الطالب (مثال : إذا استطاع الطالب أن يتعلم مفهوم الادارة الصحيح يكتسب مهارة إدارة وتنظيم حياته الشخصية) .
- 2- استراتيجيات مهارة التفكير العالية (مثال اذا كان الطالب يرغب في اتخاذ قرار جيد، من المهم أن يفكر جيدا قبل أن يتخذ القرار و إذا قرر دون تفكير أو إذا كان لا يستطيع التفكير جيدا أو إذا كان لا يستطيع أن يقرر أو ربما لن يقرر فهذا يعني ليس لديه مهارة التفكير العالية).
- 3- استراتيجيات التفكير الناقد في التعلم (Critical Thinking) (هي مصطلح يرمز لأعلى مستويات التفكير والتي يهدف إلى طرح مشكلة ما ثم تحليلها منطقياً للوصول إلى الحل المطلوب).
- 4- العصف الذهني.

طرائق التعليم والتعلم

- 1- طريقة القاء المحاضرات .
- 2- Student Center
- 3- (المجاميع الطلابية Team Project)
- 4- (ورش العمل Work shop)
- 5- (الرحلات العلمية لمتابعة الواقع البيئي)
- 6- (Learning Technologies on Campus التعلم الالكتروني داخل الحرم الجامعي)
- 7- (experiential learning التعلم التجريبي)
- 8- (Application Learning تطبيق التعلم)

10. طرائق التقييم

- 1- Exams
- 2- Matrix (مصفوفة التعلم)
- 3- Which Face (طريقة التعبير بالوجه)
- 4- CAT (التغذية الراجعة من الطلاب)
- 5- Learning Triangle (مثلث التعلم)

11. الهيئة التدريسية

اعضاء هيئة التدريس

الرتبة العلمية		اسم التدريسي	التخصص		المتطلبات/المهارات الخاصة (ان وجدت)	اعداد الهيئة التدريسية	
العام	الدقيق		ملاك	محاضر			
استاذ	د.حازم يحيى محمد علي	الكيمياء	كيمياء فيزيائيه		√		
استاذ	د.اياد فاضل محمد	الكيمياء	كيمياء فيزيائيه		√		
استاذ	د.محمد حامد سعيد	الكيمياء	كيمياء لاعضويه		√		
استاذ	د. طلعت طارق خليل	الكيمياء	كيمياء حياتيه		√		
استاذ	د. صادق عبد الحسين كريم	الكيمياء	كيمياء عضويه/ بوليمر		√		
استاذ	د.فؤاد فاضل محمد	الكيمياء	كيمياء تحليليه		√		
استاذ	د. اسيل مشتاق كاظم	الكيمياء	كيمياء تحليليه		√		
استاذ مساعد	د.نور عبد الرزاق	الكيمياء	كيمياء عضويه		√		
استاذ مساعد	د.سعاد طه سعد	الكيمياء	كيمياء لاعضويه		√		
استاذ مساعد	د.احمد حسن شنتاف	الكيمياء	كيمياء عضويه		√		
استاذ مساعد	د.علي طالب بدر	الكيمياء	كيمياء لاعضويه		√		

√		كيمياء تحليليه	الكيمياء	د. زينب هاشم خضير	استاذ مساعد
√		كيمياء عضويه	الكيمياء	د. زياد عمران موسى	استاذ مساعد
√		كيمياء تحليليه	الكيمياء	محمد عيدان حسن	مدرس
√		كيمياء فيزيائيه	الكيمياء	علي محسن محمد	مدرس
√		كيمياء حياتيه	الكيمياء	شيرين حمزه عباس	مدرس
√		كيمياء حياتيه	الكيمياء	رنا صلاح نوري	مدرس مساعد

التطوير المهني

توجيه اعضاء هيئة التدريس الجدد

التدريس كأى فن اخر يمكن اكتسابه من خلال ممارسة وأتباع طرقه وأصوله بشرط الرغبة الصادقة مزاوله مهنة التدريس والطريقة في التربية تعني اتخاذ خطوات مترابطة للوصول الى هدف معين ترجى تحقيقه. لذلك يجب ان يتبع المبادئ الاساسية في التدريس الجيد والتي هي:

1- توجيه المتعلمين وارشادهم عن طريق خلق مواقف تعليمية تؤدي إلى فعاليات مرغوبة فيها.
2- توفير جو من المحبة والعطف والتعاون بين المعلم والمتعلمين وبين المتعلمين أنفسهم من خلال حبه لطلبته تمييز وعدم الأكتثار من التأنيث.

3- اعتماد القيادة الديمقراطية من خلال العلاقة الحسية بين المدرس وطلبته مما يقودهم الى الضبط المبني على الاحترام المتبادل وخلق جو تعاوني بين الطلبة وبين المدرس وطلبته.

التطوير المهني لأعضاء هيئة التدريس

- 1- استراتيجيات التفكير حسب قدرة الطالب (مثال : إذا استطاع الطالب أن يتعلم مفهوم الادارة الصحيح يكتسب مهارة إدارة وتنظيم حياته الشخصية) . و استراتيجيات مهارة التفكير العالية (مثال اذا كان الطالب يرغب في اتخاذ قرار جيد، من المهم أن يفكر جيدا قبل أن يتخذ القرار و إذا قرر دون تفكير أو إذا كان لا يستطيع التفكير جيدا أو إذا كان لا يستطيع أن يقرر أو ربما لن يقرر فهذا يعني ليس لديه مهارة التفكير العالية).
- 2- المهارات العامة والمنقولة (المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي).
- 3- التواصل اللفظي .
- 4- العمل الجماعي.
- 5- تحليل والتحقيق (جمع المعلومات بشكل منهجي وعلمي لتأسيس الحقائق والمبادئ حل المشكلة).
- 6- مبادرة (الدافعية على العمل والقدرة على المبادرة، وتحديد الفرص و وضع الأفكار والحلول المطروحة.

12. معيار القبول

قبول مركزي وقبول موازي

13. أهم مصادر المعلومات عن البرنامج

1- الموقع الالكتروني للكلية والجامعة.

<https://csg.uobabylon.edu.iq/>

<https://csg.uobabylon.edu.iq/department/?cdid=4>

https://csg.uobabylon.edu.iq/department/dep_lectures.aspx?cdid=4

2- دليل الجامعة . <https://systems.uobabylon.edu.iq/>

3- أهم الكتب والمصادر الخاصة بمكتبة الكلية.

14. خطة تطوير البرنامج

تم تطبيق مسار بولونيا على طلبة المرحلة الاولى والعمل على تطبيقه على المراحل القادمة مع عمل ورش عمل وسمنارات لتعريف اعضاء الهيئة التدريسية على متطلبات مسار بولونيا وكيفية العمل به ومناقشة السلبيات والمعوقات وايجاد الحلول لها. تم تطبيق النظام الالكتروني في عملية التعليم .

مخطط مهارات المنهج

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج																			
المهارات العامة والمنقولة (أو) المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				اساسي ام اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
4د	3د	2د	1د	4ج	3ج	2ج	1ج	4ب	3ب	2ب	1ب	4أ	3أ	2أ	1أ				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	كيمياء التحليل النوعي	UOBAB0603011	المرحلة الاولى (الكورس الاول)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللائعوية-1	UOBAB0603012	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	علم الخليه	UOBAB0603013	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	السلامه والامن الكيمياوي	UOBAB0603014	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	حقوق الانسان والديمقراطيه	UOBABb3	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللغة العربيه	UOBAB1102	

مخطط مهارات المنهج

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج																			
المهارات العامة والمنقولة				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				اساسي ام اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
1د	2د	3د	4د	1ج	2ج	3ج	4ج	1ب	2ب	3ب	4ب	1أ	2أ	3أ	4أ				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللغة الانكليزية	UOBAB0603026	المرحلة الاولى (الكورس الثاني)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	كيمياء التحليل الحجمي	UOBAB0603021	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللاعضوية-2	UOBAB0603022	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	الرياضيات	UOBAB0603023	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	الفيزياء	UOBAB0603024	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	برمجة الحاسوب	UOBAB0603025	

مخطط مهارات المنهج

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج																			
المهارات العامة والمنقولة (أو) المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				اساسي ام اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
4د	3د	2د	1د	4ج	3ج	2ج	1ج	4ب	3ب	2ب	1ب	4أ	3أ	2أ	1أ				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	كيمياء التحليل النوعي	UOBAB0603011	المرحلة الاولى (الكورس الاول)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللاعضوية-1	UOBAB0603012	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	علم الخلية	UOBAB0603013	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	السلامه والامن الكيماوي	UOBAB0603014	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	حقوق الانسان والديمقراطيه	UOBABb3	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللغة العربيه	UOBAB1102	

مخطط مهارات المنهج

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج

المهارات العامة والمنقولة				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				اساسي ام اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
(أو) المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي	1د	2د	3د	4ج	3ج	2ج	1ج	4ب	3ب	2ب	1ب	4أ	3أ	2أ	1أ				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللغة الانكليزية	UOBAB0603026	المرحلة الاولى (الكورس الثاني)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	كيمياء التحليل الحجمي	UOBAB0603021	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	اللاعضوية-2	UOBAB0603022	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	الرياضيات	UOBAB0603023	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	الفيزياء	UOBAB0603024	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	اساسي	برمجة الحاسوب	UOBAB0603025	

مخطط مهارات المنهج



Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	COMPUTERS PROGRAM		Module Delivery
Module Type	B		Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB0603025		
ECTS Credits	4.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	HazimYahya	e-mail	
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Teaching the student to be familiar with the basic rules for dealing with and managing a computer to help him complete projects Printing matters, preparing statistics and graphs, creating presentations and designing engineering plans And others, and the emergence of the Internet as a means of communication available to everyone, it has become very necessary for students to learn to use Computer due to the role of the Internet in many fields, including education, scientific research, trade and marketing		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The student’s understanding of the material 2. The ability to analyze and apply what you have learned practically on the calculator 3. The evaluation should be done by presenting the material to the students in the laboratory and then applying it		
Indicative Contents المحتويات الإرشادية	The theoretical method and explanation is by presenting the material on the Point Power program in the form of diagrams and pictures This is to attract the student's attention and help him not feel bored. The practical method is to apply what has been presented On the calculator and conduct daily and monthly exams.		
Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	64

Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Phases of the computer course And its generations and data And information
Week 2	Computer features And areas of its use And its components
Week 3	Types of computers And its classification
Week 4	Computer components and parts Physical input devices And the output
Week 5	Computer box and software entity
Week 6	Preparation systems and personal computers
Week 7	first exam

Week 8	Computer platform and factors Which should be considered when purchasing the computer
Week 9	Main features of a personal computer
Week 10	viruses the computer
Week 11	Damage resulting from Viruses
Week 12	• The most important steps • Viruses- • Necessary to protect against hacking •
Week 13	• Virus components • Computer damage • And its types •
Week 14	• Second Exam.
Week 15	• Sources of hacking and risks

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس
[1] Mars climate orbiter. http://mars.jpl.nasa.gov/msp98/orbiter/ , 1999. [Online; accessed 17-March-2015].

[2] Moth in the machine: Debugging the origins of ‘bug’. Computer World Magazine, September 2011. [3] errno.h: system error numbers - base definitions reference. <http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/errno.h.html>, 2013. [Online; accessed 13-September-2015].

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	MATHEMATICS I		Module Delivery	
Module Type	S		Theory Lecture Lab Tutorial Practical Seminar	
Module Code	UOBAB0603023			
ECTS Credits	4.00			
SWL (hr/sem)	150			
Module Level			Semester of Delivery	
Administering Department			College	

Module Leader	Zyiad Khalaf	e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	1-To know the cardinal factor, homology, and Asian functions. 2- Learn how to calculate limits. 3- Be able to perform differentiation. 4- Distinguish between partial differentiation and ordinary differentiation. 5- Learn about the Cauchy-Riemann equations. 6- Learn how to integrate. 7- Learn about Integration methods. 8- Can implement the multiplier. 9- Distinguish between partial integration and arbitrary integration.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	4. Functions in a real variable - objectives - continuity - differentiation - integration.		
Indicative Contents المحتويات الإرشادية	Learn how to integrate. Learn about Integration methods. Can implement the multiplier. Distinguish between partial integration and arbitrary integration.		
Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطلاب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Real numbers
Week 2	Functions in a real variable
Week 3	Trigonometric functions
Week 4	Logarithmic functions
Week 5	Exponential functions
Week 6	The ends of real functions
Week 7	first exam
Week 8	Objectives of trigonometric functions

Week 9	Goals at infinity
Week 10	Exercise solutions
Week 11	Continuity
Week 12	Definition of derivation • .
Week 13	Derivation of real functions •
Week 14	• Second Exam.
Week 15	Derivation of trigonometric functions • Derivation of logarithmic and exponential functions

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس Anton howard."calculus".J on wiley and sons.Inc.4th edition.1992		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	LABORTARY SAFTY		Module Delivery
Module Type	S		Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB0603014		
ECTS Credits	5.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	Mohammed Hamed Saaed	e-mail	
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	The ignorance of the chemical safety principles lead to expose the laboratory workers and students to great dangerous situations and in some cases lead to death. Knowledge of the applications of best practices for handling chemicals materials will minimize risks, whether to individuals, facilities or community. Chemical and biological safety involves understanding the physical, chemical and toxicological hazards of chemicals.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	5. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 6. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 7. Students can handle the chemicals with good experience. 8. Students can develop their thoughts to create some projects that are useful in the field.		
Indicative Contents المحتويات الإرشادية	1. Safety for university teaching staff, coworkers and students. 2. Protection of university facilities, during study and workplace in future. 3. Protection of the society and the environment.		
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem)	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	1- Introduction and Definitions 2- Roles and responsibilities 2-1-Institutional chemical safety Committee, 2-2-Principal Investigators, 2-3-Laboratory workers, 2-4-Occupational Health Program, 2-5-Office of Environmental Health and Safety, and the chemical 1 Safety Officer
Week 2	3. WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM 3.1 Material Safety Data Sheets . 3.2 Understanding hazard warning information 3.3 Toxicological properties: 3.3.1 Flash point . 3.3.2 Auto ignition temperature . 3.3.3 Flammable limits
Week 3	4. GENERAL CHEMICAL SAFETY 4.1 Good Work Practices/General Safety . 4.2 Personal Hygiene
Week 4	5. PERSONAL PROTECTIVE EQUIPMENT 5.1 Eye and face protection . 5.2 Hand protection . 5.2.1 Selection of Gloves for Work with Chemicals . 5.2.2 Use and Care of Gloves . 5.3 Body Protection – Protective clothing. 5.4 Respiratory Protection

	6. EMERGENCY PROCEDURES 6.1 Equipment . 6.2 Chemical Related Emergency Procedures . 6.2.1 Chemical Contact . 6.2.2 Poisoning . 6.2.3 Power failure . 6.2.4 Domestic Water Interruption . 6.2.5 Chemical Spills
Week 5	CHEMICAL SPILL PREVENTION AND PREPAREDNESS 7.1 Spill Kits . 7.2 Spill Classification . 7.3 Spill Response
Week 6	8. SPECIFIC CHEMICAL HAZARDS 8.1 Flammables . 8.2 Oxidizers . 8.3 Corrosives . 8.4 Highly Reactive Materials . 8.5 Cryogenic Materials. 8.6 Designated Substances . 8.7 Other Toxic Materials . 9- Laboratory ventilation and containment for chemical safety - Laboratory chemical (“fume”) hood
Week 7	first exam
Week 8	10. CHEMICAL HANDLING AND STORAGE 10.1 Chemical Inventory . 10.2 General Transport Practices. 10.3 General Storage Practices . 10.4 Storage of Flammables and Combustibles . 10.4.1 Storage Rooms for Flammable and Combustible Liquids . 10.4.2 Approved Flammable Storage Cabinets . 10.5 Chemical Segregation . 10.6 Storage of Gas Cylinders . 10.7 Containment
Week 9	11. HAZARDOUS WASTE MANAGEMENT 11.1 Minimization of Hazardous Waste 11.2 Packaging and Labelling Requirements . 11.3 Chemical Waste . 11.3.1 Unknown Waste. 11.3.2 Explosive Waste .
Week 10	12-Radiation Safety - Basic concepts and definitions - Types of ionizing radiation - Sources of radiation - Contamination and exposure - Chemical effects of radiation - Principles of exposure control

	- Labelling
Week 11	12-Radiation Safety - Basic concepts and definitions - Types of ionizing radiation - Sources of radiation - Contamination and exposure - Chemical effects of radiation -
Week 12	• Contamination • Radiation safety instrumentation
Week 13	Chemical ethics • What is ethics? • Why ethics? • Applying chemical ethics in research •
Week 14	• Second Exam.
Week 15	• Principles of exposure control • Labelling

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the

		Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	ARABIC LANGUAGE		Module Delivery
Module Type	S		Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB2		
ECTS Credits	4.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	Amina Ameer	e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	1- Introducing students to the concept of the Arabic language 2 - Evaluation of speech in terms of recognizing the exits of letters 3- Inculcating the student’s interest in the Arabic language and going beyond the practical dialect 4- Developing the student’s spelling and handwriting ability and skill so that he can write correctly in all aspects 5-Helping the student understand complex structures and ambiguous methods 6 - Developing the student’s literary and creative abilities so that he can express himself correctly 7_ Accustoming students to the method of logical thinking in presentation and analysis, especially in exercises on correct reading. 9_Course outcomes and methods of generalization, learning and evaluation		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	9. The student’s understanding of the material 10. The ability to analyze and apply what you have learned practically on the Arabic 11. The evaluation should be done by presenting the material to the students in the laboratory and then applying it		
Indicative Contents المحتويات الإرشادية	The theoretical method and explanation is by presenting the material on the Point Power program in the form of diagrams and pictures This is to attract the student's attention and help him not feel bored. The practical method is to apply what has been presented On the calculator and conduct daily and monthly exams.		
Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	The concept of Arabic language
Week 2	Characteristics of the Arabic language
Week 3	Factors of richness in language Arabic
Week 4	Levels of seductive expression
Week 5	Sections of speech (Noun, verb, and letter.)
Week 6	Pronouns
Week 7	Interrogative nouns
Week 8	Demonstrative names

Week 9	Relative nouns
Week 10	First Exam
Week 11	Verbs – past tense
Week 12	The present tense
Week 13	Letter
Week 14	Syntactic signs
Week 15	Second Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
. عبد اللطيف الصوفي ، اللغة ومعاجمها في المكتبة العربية ، الطبعة الأولى 1986 ، طلسدار للدراسات والترجمة والنشر ، دمشق . عز الدين إسماعيل ، المصادر الأدبية واللغوية في التراث العربي ، مكتبة غريب ، الفجالة ، مصر محمد عجاج الخطيب ، لمحات في المكتبة والبحث والمصادر ، الطبعة الرابعة عشر 1413 هـ - 1993م ، مؤسسة الرسالة بيروت محمد ماهر ، المصادر العربية والمعرية ، الطبعة السادسة 1407 ، هـ - 1987م ، مؤسسة الرسالة ، بيروت		
	Text	Available in the

		Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
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Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	PHYSICS SCIENCE		Module Delivery
Module Type	S		Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB0603024		
ECTS Credits	4.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	Ziyad Khalaf	e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Physics is one of the ancient sciences that man has begun to understand and understand all its phenomena. Optics, electricity, mechanics, and heat are all focused on his daily applications, so there is nothing surprising in that. He sees the sun, the moon, and surrounding things, and sees his image in the water, so he tries to understand that, and with development: the laws of reflection and refraction provided a solution to all his questions, and electricity and heat known at this time are only results of causes. These are questions created by man and whose foundations were laid by a group of scientists in the service of humanity		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	After completing the course, the student will be able to: The course aims to introduce the student to waves, light, reflection, and refraction 2- Introducing students to the eye, the observer, defects in lenses and optical devices, interference, and diffraction 3- Explaining the phenomenon of spectra, polarization, the speed of light and its nature 4-The concept of electricity, charge and matter, Coulomb's law 5-Magnetism and magnetic properties, induction, lines of induction, and magnetic flux		

Indicative Contents المحتويات الإرشادية	Physics is one of the ancient sciences that man has begun to understand and understand all its phenomena. Optics, electricity, mechanics, and heat are all focused on his daily applications, so there is nothing surprising in that. He sees the sun, the moon, and surrounding things
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Waves and their nature
Week 2	Light and its properties
Week 3	Lenses and their applications
Week 4	Spectra and polarized light
Week 5	General discussion and review
Week 6	Electricity and Coulomb's law
Week 7	first exam
Week 8	Electric field and Gauss's law
Week 9	Magnetism and magnetic properties
Week 10	Magnetic force, electric current
Week 11	Faraday's law and Lenz's law
Week 12	Ampere's law and some of its applications
Week 13	Discussion and review
Week 14	Second Exam.
Week 15	Physics of semiconductor materials

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Surface tension
Week 2	Ohm's law using a dilatant
Week 3	Find the frequency of a tuning fork
Week 4	Finding the refractive index of a liquid using a lens

Week 5	Compound pendulum
Week 6	Resonance in series alternating current circuits
Week 7	Helical spring

Learning and Teaching Resources

مصادر التعلم والتدريس

- 1- كرجيه، امجد عبد الرزاق وآخرون. الفيزياء العامة، دار الكتب للطباعة والنشر، جامعة الموصل، 1988
- 2- الحسون عباس محمد وآخرون، البصريات، المكتبة الوطنية، جامعة بغداد 1980
- 3- مظفر أنور النعمة، فيزياء الالكترونيات ، كلية الهندسة، جامعة الموصل، 2001 م .

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي

	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	INORGANIC1			Module Delivery
Module Type	C			Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB0603012			
ECTS Credits	6.00			
SWL (hr/sem)	150			
Module Level			Semester of Delivery	
Administering Department			College	

Module Leader	Ali Talib Bader	e-mail	
Module Leader's Acad. Title	Asst. Prof.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry. The relationship between chemical elements and their compounds is based primarily on atomic structures and electronic configurations. Chemical bonding of different types are found in molecular and ionic compounds, and these bonding types are discussed in terms of the latest theories and experimental results. Topics such as coordination compounds, boron hydrides, metal cluster compounds, metal carbonyls, solid state structures, and the geometry of finite molecular species are presented. The correlation of physical properties with structure, composition, and electronic states of the metal ionics are developed, based on theoretical considerations.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	12. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 13. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 14. Students can handle the chemicals with good experience. 15. Students can develop their thoughts to create some projects that are		

	useful in the field.
Indicative Contents المحتويات الإرشادية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Atomic Structure, history of quantum theory , photoelectric effect and transition of atomic

Week 2	Bohr theory, Bohr atom and Sommerfeld theory
Week 3	Zeeman effect ,rule of wave mechanics
Week 4	Schrödinger equation
Week 5	Quantum number
Week 6	Electron Orbital: Definition, Shells & Shapes
Week 7	first exam
Week 8	Electronic structure and periodic ,Shielding effect
Week 9	Ionic compound ,Born –Harber cycle
Week 10	Polarizable of ionic compound
Week 11	Structure of ionic crystals.
Week 12	Structure of some ionic and covalent crystals.
Week 13	Valance bond theory and molecular theory
Week 14	Second Exam.
Week 15	VSPER

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
1- د. نعمان النعيمي "الكيمياء اللاعضوية" الجزء الأول و الثاني ، مطبعة جامعة بغداد، 2- P.J.Durrant " General and inorganic chemistry" , 3rd edition,Dai Nippon Printing Co(H.K) Ltd, 1964 3- P.J.Gillespie and P.L.A.Popelier" Chemical Bonding and Molecular Geometry " ,Oxford university press, 2001.		
	Text	Available in the

		Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	INORGANIC 2			Module Delivery	
Module Type	C			Theory Lecture Lab Tutorial Practical Seminar	
Module Code	UOBAB0603022				
ECTS Credits	6.00				
SWL (hr/sem)	150				
Module Level			Semester of Delivery		
Administering Department			College		
Module Leader	Ali Talib Bader		e-mail		
Module Leader's Acad. Title		Asst. Prof.	Module Leader's Qualification		Ph.D.
Module Tutor			e-mail	None	
Peer Reviewer Name			e-mail		
Review Committee Approval			Version Number	1.0	

Relation with Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry. The relationship between chemical elements and their compounds is based primarily on atomic structures and electronic configurations. Chemical bonding of different types are found in molecular and ionic compounds, and these bonding types are discussed in terms of the latest theories and experimental results. Topics such as coordination compounds, boron hydrides, metal cluster compounds, metal carbonyls, solid state structures, and the geometry of finite molecular species are presented. The correlation of physical properties with structure, composition, and electronic states of the metal ionics are developed, based on theoretical considerations.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	16. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 17. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 18. Students can handle the chemicals with good experience. 19. Students can develop their thoughts to create some projects that are useful in the field.		
Indicative Contents المحتويات الإرشادية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry.		
Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Method of repulsion of electronic pairs in the valence layer
Week 2	Hydrogen, hydrogen bond
Week 3	Hydration, hydrogen ion, oxime ion
Week 4	hydrides
Week 5	Solubility, complex compounds
Week 6	Boron, boron oxides, borates and hydrides
Week 7	First Exam
Week 8	Aluminum compounds, calcium and indium halides

Week 9	Divalent carbon compounds, carbides and hydrogen cyanide
Week 10	Divalent carbides and hydrogen cyanide
Week 11	Double bonds
Week 12	Preparation of the rest of the group elements,
Week 13	Preparation of the silicon halides
Week 14	Second Exam
Week 15	Silicone uses

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
1- د. نعمان النعيمي "الكيمياء اللاعضوية" الجزء الأول و الثاني ، مطبعة جامعة بغداد، 2- P.J.Durrant " General and inorganic chemistry" , 3rd edition,Dai Nippon Printing Co(H.K) Ltd, 1964 3- P.J.Gillespie and P.L.A.Popelier" Chemical Bonding and Molecular Geometry " ,Oxford university press, 2001.		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
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	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				



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Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	ENGLISH LANGUAGE		Module Delivery
Module Type	B		Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB0603026		
ECTS Credits	4.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	Amina Ameer		e-mail
Module Leader's Acad. Title		Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	1- Explaining the material in a clear and understandable way for all students. 2. Involve students in discussing and solving exercises. 3- Explaining the study material using various methods An explanation to develop students' abilities and break boredom in the classroom		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	20. The student's understanding of the material 21. The ability to analyze and apply what you have learned practically on the English 22. The evaluation should be done by presenting the material to the students in the laboratory and then applying it		
Indicative Contents المحتويات الإرشادية	The theoretical method and explanation is by presenting the material on the Point Power program in the form of diagrams and pictures This is to attract the student's attention and help him not feel bored. The practical method is to apply what has been presented On the calculator and conduct daily and monthly exams.		
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Present simple (I Do)
Week 2	Present continuous and simple 1
Week 3	Present continuous and simple 2
Week 4	Past simple (IDid)
Week 5	Past continuous (I was doing)
Week 6	Present perfect 1(have done)
Week 7	Present perfect 2(I have done)
Week 8	Present perfect continuous (I have been doing)
Week 9	Present perfect continuous and simple
Week 10	First Exam
Week 11	For and since When ..? and how long
Week 12	Present perfect and past 1(I have done and Did)
Week 13	Past perfect (I had done)
Week 14	Past perfect continuous (I had been doing)
Week 15	Second Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

Austin J.D. (2003). The Grammar Translation Method of Language Teaching. London: Longman.
 Hell, Gy. (2009). A fordításhelye a rómaioktatásban (és Cicero fordításai). Modern Nyelvoktatás XV. 1-2, 3-12.

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	HUMAN AND DEMOCRACY	Module Delivery

Module Type	B	Theory Lecture Lab Tutorial Practical Seminar		
Module Code	UOBAB3			
ECTS Credits	2.00			
SWL (hr/sem)	150			
Module Level		Semester of Delivery		
Administering Department		College		
Module Leader	Kareem Mohmmmed	e-mail		
Module Leader's Acad. Title		Module Leader's Qualification		Ph.D.
Module Tutor		e-mail	None	
Peer Reviewer Name		e-mail		
Review Committee Approval		Version Number	1.0	

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	1 – التعرف على أفكار أساسية بخصوص حقوق الانسان وحياته . 2 – تعريف حقوق الانسان وحياته . 3 – التعرف على مصادر حقوق الانسان 4 – معرفة بعض ملامح حقوق الانسان في الحضارات القديمة 5 – التعرف على حقوق الانسان في حضارة العراق القديم 6 – معرفة حقوق الانسان في حضارة مصر الفرعونية 7 – معرفة حقوق الانسان في الحضارة اليونانية 8 – معرفة حقوق الانسان في الحضارة الرومانية 9 – التعرف على المفهوم الاسلامي لمفهوم حقوق الانسات 10 – معرفة الحقوق الفردية 11 – معرفة الحقوق المشتركة (فئوية) 12 – التعرف على الحقوق الجماعه 13 – معرفة الاهتمام الدولي المعاصر لحقوق الانسان وحياته 14 – التعرف على سمات حقوق الانسان وحياته		

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	23. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 24. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 25. Students can handle the chemicals with good experience. 26. Students can develop their thoughts to create some projects that are useful in the field.
Indicative Contents المحتويات الإرشادية	ترتبط قضية حقوق الانسان وحرياته الاساسية وبشكل جذري ومباشر بقضية وجودنا وقد نشطت جميع العلوم وسخرت نظرياتها ومناهجها للنظر في ماهية الانسان حقوق النسان ثمرة من ثمار العلاقة بين السلطه والفرد ولذا فان مدار البحث فيها يظل قائما حيثما وجد الانسان ووجدت السلطه .
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطلاب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome	
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment		100% (100 Marks)			

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	افكار اساسية بخصوص حقوق الانسان وحياته
Week 2	حقوق الانسان مادة للفكر السياسي والقانون
Week 3	الدمج بين حقوق الانسان وحياته
Week 4	تعريف حقوق الانسان وحياته
Week 5	الفصل بين حقوق الانسان وحياته
Week 6	مصادر حقوق الانسان وحياته الاساسية
Week 7	المدارس الفكرية والسياسية والقانونية لحقوق الانسان
Week 8	المصادر الوطنية لحقوق الانسان
Week 9	المصادر العالمية لحقوق الانسان
Week 10	حقوق الإنسان في الدساتير العراقية بين النظرية والواقع
Week 11	العلاقة بين حقوق الإنسان والحريات العامة
Week 12	في الإعلان العالمي لحقوق الإنسان والمواثيق الدولية
Week 13	ملامح حقوق الإنسان في ظل الملكية المركزية
Week 14	اشكال واصناف حقوق الانسان والترابط بينها
Week 15	حقوق الانسان الفردية وحقوق الانسان الجماعية

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	لايوجد مختبر عملي لهذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

- د.احمد جمال ظاهر ، حقوق الانسان ، عمان ، مركز النهضة 1988
 د.نعيم عطية ، النظرية العامة للحريات الفردية ، القاهرة ، الدار القومية 1965- 2
 د.عزة سيد البرعي ، حماية حقوق الانسان في ظل التنظيم الدولي ، القاهرة ، مطبعة العاصمة 1985 -3

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	CYTOLOGY		Module Delivery
Module Type	S		Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB0603012		
ECTS Credits	5.00		
SWL (hr/sem)	150		
Module Level			
Administering Department			College

Module Leader	Hassanin Kahlil	e-mail	
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	This course aims to introduce the cell as the primary unit in building a living organism and give the student information And the basic knowledge about the cell structure that enables one to know and understand the function and basic structure of the unit. Cellular cells and their various contents, as well as knowledge of the various vital activities that take place at the level of each cell Bite. This course also aims to enable the student to conduct the necessary laboratory experiments to consolidate concepts the theory		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	After completing the course, the student will be able to: 1 - Reviews the basic scientific principles and concepts in cell science and the basic structure of any cell It clearly explains the differences between prokaryotic and eukaryotic cells, as well as the differences between cellular organelles Structurally and functionally. 2 - Connects the various scientific information and knowledge related to		

	cell science into a whole that reflects a complete understanding and familiarity with the whole body. With this knowledge. 3 - Explains the various biological processes of the various organisms and links them to their structure and biochemical activity. And the physiology of the cell and the organism as a whole.
Indicative Contents المحتويات الإرشادية	This course aims to introduce the cell as the primary unit in building a living organism and give the student information And the basic knowledge about the cell structure that enables one to know and understand the function and basic structure of the unit
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	

	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Reviews principles and concepts Basic science in cell science The basic structure of any cell
Week 2	Clearly explains the differences between cells Prokaryotic and eukaryotic cells The nucleus as well as the differences between the organelles Cellular structure and function
Week 3	History of science And its importance nd its connection In other sciences And cell theory
Week 4	Differences basic between Types of cells
Week 5	Molecules biological in cell, Its characteristics And its functions
Week 6	Membranes Cellular And the wall Cellular
Week 7	first exam
Week 8	Organelles Cell, its structure And its function
Week 9	The general structure, function and effects of the nucleus In different cells
Week 10	Types of nucleic acids and their differences Structural and functional among them.

Week 11	The nature of genetic material and its genetic structure.
Week 12	- the various nuclear activities are multiplying - And copy and paste it.
Week 13	- Introduction to the structural structures of the prokaryotic cell - And eukaryotes
Week 14	Second Exam.
Week 15	- Models of plant cells that closely illustrate how the cell structure matches - Its function is explained through segments

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس <i>Cell Biology</i> . S.C.RASTOGI, New Age International, 2002		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	QUALITATIVE ANALYSIS CHEMISTRY		Module Delivery
Module Type	C		Theory Lecture Lab Tutorial Practical Seminar
Module Code	UOBAB0603021		
ECTS Credits	8.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	Fouad Fadhil Al-Qaim	e-mail	
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	First objective of this course is to provide enough information regarding analytical chemistry in term of preparation and instrumental analysis. Second objective is to develop an ability to distinguish between the accuracy and precision of experimental data and to show how to solve some challenges during the lab work. Third objective is to definition the developed and classical analysis methods. Fourth objective is to enable the students in preparation different solutions in different expression and how to related among them. Fifth objective is teaching the students the laboratory skills that will give students confidence in their ability to obtain high-quality analytical data.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	27. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 28. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 29. Students can handle the chemicals with good experience. 30. Students can develop their thoughts to create some projects that are useful in the field.		
Indicative Contents المحتويات الإرشادية	Analytical chemistry deals with methods for determining the chemical composition of samples of matter. A qualitative method yields information about the identity of atomic or molecular species or the functional groups in the sample. A quantitative method		
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68

Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150
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Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to analytical chemistry, classification, and historical overview
Week 2	- Equilibrium in chemical systems, including the equilibrium state and the equilibrium constant
Week 3	Equilibrium calculations, the effect of changing concentration on equilibrium
Week 4	- Solutions, including the chemical composition of solutions, saturated and supersaturated solutions, solubility,
Week 5	Methods of expressing special concentrations With solutions, chemical calculations
Week 6	- Ionic balance, acid function (pH), ionization constant for weak acids and weak bases
Week 7	Ionic tension, effectiveness and effectiveness constant
Week 8	Uses and calculations of the effectiveness constant. first test#
Week 9	The idea of the solubility product constant

Week 10	Its uses in sedimentation and separation
Week 11	Second Examination
Week 12	The idea of ionization: its uses and calculations
Week 13	Electrolytic solutions, modern theory of acids and bases
Week 14	Buffer solutions, their types, capacity, and use of the pH of buffer solutions
Week 15	- Hydrolysis of salts, calculations of the pH of aqueous solutions and the degree of decomposition Complex ions and their ionization properties and uses in analytical chemistry
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Principles of precipitation of group II cations Separation and identification of group IIa cations in the mixture Cu^{2+} , Cd^{2+} , Pb^{2+} , Hg^{2+} .
Week 2	Separation and identification of Group II B cations in the mixture Cu^{2+} , Cd^{2+} , Pb^{2+} , Hg^{2+} , Bi^{3+} . Questions and exercises
Week 3	Principles of precipitation of group III cations Separation and identification of group IIIa cations in the mixture Al^{3+} , Cr^{3+} , Mn^{2+} , Fe^{2+}
Week 4	Separation and identification of group III B cations in the mixture Ni^{2+} , Co^{2+} , Mn^{2+} , Zn^{2+} . Questions and exercises.
Week 5	Separation and identification of Group IV cations (alkaline earth elements), Ba^{2+} , Ca^{2+} , Sr^{2+} , questions and exercises
Week 6	Separating and identifying group five cations (alkaline elements), Mg^{2+} , K^{+} , Na^{+} , NH_4^{+} , questions and exercises

	.
Week 7	Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

1 Vogel's Textbook of Quantitative Chemical Analysis, John Wiley & Sons fifth edition 1989.

2 Douglas A. Skoog and Donald M. West, Fundamentals of Analytical Chemistry, fourth edition, 1982.

3 Christian G. D. "Analytical Chemistry" sixth edition, John Wiley & Sons, 2003.

4 Harris, D.C. Quantitative Chemical Analysis, seventh edition, W.H. Freeman, New York, 2007.

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	VOLUMETRIC ANALYSIS CHEMISTRY	Module Delivery
Module Type	C	Theory Lecture Lab Tutorial Practical
Module Code	UOBAB0603011	
ECTS Credits	8.00	

SWL (hr/sem)	150	Seminar		
Module Level		Semester of Delivery		
Administering Department		College		
Module Leader	Fouad Fadhil Al-Qaim	e-mail		
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.	
Module Tutor		e-mail	None	
Peer Reviewer Name		e-mail		
Review Committee Approval		Version Number	1.0	

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	First objective of this course is to provide enough information regarding analytical chemistry in term of preparation and instrumental analysis. Second objective is to develop an ability to distinguish between the accuracy and precision of experimental data and to show how to solve some challenges during the lab work. Third objective is to definition the developed and classical analysis methods. Fourth objective is to enable the students in preparation different solutions in different expression and how to related among them. Fifth objective is teaching the students the laboratory skills that will give students confidence in their ability to obtain high-quality analytical data.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	31. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 32. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 33. Students can handle the chemicals with good experience. 34. Students can develop their thoughts to create some projects that are		

	useful in the field.
Indicative Contents المحتويات الإرشادية	Analytical chemistry deals with methods for determining the chemical composition of samples of matter. A qualitative method yields information about the identity of atomic or molecular species or the functional groups in the sample. A quantitative method
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطلاب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Principles of analytical chemistry

Week 2	evaluation of analytical data
Week 3	elementary concepts
Week 4	solubility and concentration
Week 5	molarity vs normality
Week 6	Density vs specific gravity
Week 7	trace concentration (ppb, ppm and ppt)
Week 8	percentage concentration
Week 9	First examination
Week 10	stoichiometric relationships
Week 11	strong electrolytes vs weak electrolytes
Week 12	types of salts
Week 13	buffer solution
Week 14	slightly soluble salts I
Week 15	slightly soluble salts II
Week 16	Second Examination

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Definition of some laboratory equipment and chemical safety in the lab
Week 2	Preparation and standardization of hydrochloric acid against borax or sodium carbonate
Week 3	Preparation and standardization of hydrochloric acid against sodium hydroxide
Week 4	Preparation and standardization of sodium hydroxide and sodium carbonate against hydrochloric acid
Week 5	Preparation and determination of acetic acid against sodium hydroxide
Week 6	Preparation and determination of chloride ion by Mohr's method titration.
Week 7	Determination of water hardness.

Learning and Teaching Resources

مصادر التعلم والتدريس

.1Vogel's Textbook of Quantitative Chemical Analysis, John Wiley & Sons fifth edition 1989

.2Douglas A. Skoog and Donald M. West, Fundamentals of Analytical Chemistry, fourth edition, 1982

.3Christian G. D. "Analytical Chemistry" sixth edition, John Wiley & Sons, 2003

.4Harris, D.C. Quantitative Chemical Analysis, seventh edition, W.H. Freeman, New York, 2007

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
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	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				



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Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Physical Chemistry-2		Module Delivery	
Module Type	C		Theory Lecture Lab Tutorial Practical Seminar	
Module Code				
ECTS Credits	4.00			
SWL (hr/sem)	150			
Module Level		Semester of Delivery		
Administering Department		College		
Module Leader	Hazim Yahya		e-mail	
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.	
Module Tutor		e-mail	None	
Peer Reviewer Name		e-mail		
Review Committee Approval		Version Number	1.0	

Relation with Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	After careful study of this course the student should be able to: I- List and describe the Thermodynamics . II- Explain the meaning of the System. III- Define First law of thermodynamicst, First law of thermodynamicst,. IV- Calculate the work . V- Explain the Carnot cycle . VI- Derive and use the work equation. VII- Define and calculate the free energy. VIII- Describe the general procedure for calculation of Entroyp. IX- Describe the types of Maxwell relashin ship. Free energy and Helmholtz energy for closed systems		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. It is well known that Physical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 2. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 3. Students can handle the chemicals with good experience.		
Indicative Contents المحتويات الإرشادية	1. It is well known that Physical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry.		
Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب
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Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المناهج الاسبوعي النظري	
	Material Covered
Week 1	Phase and phase balances
Week 2	Clapeyron's equation and its applications
Week 3	Two-component system and types of miscibility
Week 4	Ideal solutions and associative properties: (low vapor pressure, high boiling point, low freezing point, osmotic pressure)
Week 5	Free energy and chemical equilibria
Week 6	
Week 7	First exam.
Week 8	Statistical thermodynamics and Boltzmann's law of distribution
Week 9	The hash function and its calculation for all types of motion (translational, rotational, and

	vibrational)
Week 10	Calculating thermal energy,
Week 11	thermal enthalpy,
Week 12	entropy for all types of motion
Week 13	Calculating free energy and equilibrium constant using partition functions
Week 14	Second Exam.
Week 15	Discussion the home work
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المناهج الأسبوعي للمختبر	
	Material Covered
Week 1	Definition of some laboratory equipment and chemical safety in the lab
Week 2	Determination the one phase diagram
Week 3	Phenol- water phase diagram
Week 4	Refractive index
Week 5	Three component system
Week 6	Boiling point elevation
Week 7	Exam

Learning and Teaching Resources مصادر التعلم والتدريس Physical Chemistry, Atkins, 6th ed. 2001 .Problems in physical chemistry 1st , by K.K. Shrma,1994 .Physical chemistry 5th by Walter J. Moor, 1972 .Physical chemistry 7th by Robert Al-Berty, 1987		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				



ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي



Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Mathematics		Module Delivery
Module Type	S		Theory Lecture Lab Tutorial Practical Seminar
Module Code			
ECTS Credits	2.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	Ziyad Khalaf	e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	1-To know the cardinal factor, homology, and Asian functions. 2- Learn how to calculate limits. 3- Be able to perform differentiation. 4- Distinguish between partial differentiation and ordinary differentiation. 5- Learn about the Cauchy-Riemann equations. 6- Learn how to integrate. 7- Learn about Integration methods. 8- Can implement the multiplier. 9- Distinguish between partial integration and arbitrary integration.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	4. Functions in a real variable - objectives - continuity - differentiation - integration.		
Indicative Contents المحتويات الإرشادية	Learn how to integrate. Learn about Integration methods. Can implement the multiplier. Distinguish between partial integration and arbitrary integration.		
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية				
	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome

Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Implicit derivation
Week 2	integration
Week 3	Indefinite integration
Week 4	Integration methods
Week 5	Partial derivation
Week 6	Integration methods
Week 7	Exercise solutions
Week 8	Partial integration
Week 9	Complex numbers
Week 10	Double integration
Week 11	Cauchy_Riemann equations
Week 12	Exercise solutions
Week 13	Cauchy_Riemann equations
Week 14	Double integration
Week 15	Second exam
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	ORGANIC CHEMISTRY-2	Module Delivery

Module Type	C	Theory Lecture Lab Tutorial Practical Seminar		
Module Code				
ECTS Credits	4.00			
SWL (hr/sem)	150			
Module Level		Semester of Delivery		
Administering Department		College		
Module Leader	د. نور عبد الرزاق	e-mail		
Module Leader's Acad. Title	استاذ مساعد	Module Leader's Qualification		Ph.D.
Module Tutor		e-mail	None	
Peer Reviewer Name		e-mail		
Review Committee Approval		Version Number	1.0	

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	After careful study of this course the student should be able to: I- Introduction in organic chemistry, chemical bond, reaction of organic chemistry. II- Explain the meaning of the Alkanes: introduction, properties, names, preparations, mechanism, reactions. III- Define Dienes : introduction, properties, names, Alkynes: introduction, properties, names,, IV- Alkynes: preparations. V- Explain the Alkynes: , mechanism, reactions. VI- Cyclo alkane: introduction, properties, names, preparations. VII- Cyclo alkane: mechanism, reactions		

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	5. It is well known that Organic chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 6. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 7. Students can handle the chemicals with good experience.
Indicative Contents المحتويات الإرشادية	2. It is well known that Organic chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطلاب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7

	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Aromatic compounds: (Part Two) Introduction to them, their structure, naming, properties, mechanics of preparation, and interactions.
Week 2	Alkyl halides: introduction, structure, nomenclature, properties, mechanics of preparation, reactions, and analysis. Written exam, semester 2.
Week 3	Alcohols: introduction, structure, nomenclature, properties, mechanics of preparation,, interactions, and analysis.
Week 4	Alcohols:, properties,
Week 5	Alcohols: mechanics of preparation,,
Week 6	Alcohols:, interactions, and analysis.
Week 7	First Exam
Week 8	Ethers: introduction, structure, nomenclature.
Week 9	Ethers: introduction, structure, nomenclature
Week 10	Alkynes: preparations
Week 11	Alkynes: , mechanism, reactions
Week 12	Cyclic ethers: introduction, structure, nomenclature
Week 13	Cyclic ethers:, reactions, mechanics, preparation, interactions, desalination.
Week 14	review
Week 15	Second Examination
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Definition of some laboratory equipment and chemical safety in the lab
Week 2	Preparation of alkyl halides
Week 3	Distinction between alcohols
Week 4	Distinguish between aldehyde and ketone
Week 5	Preparing aspirin
Week 6	Preparing soap
Week 7	Month exam

Learning and Teaching Resources مصادر التعلم والتدريس		
1. Organic chemistry by R. Morrisn and R. boyd ,4th Edition Allyn and Bacon1998 2-الكيمياء العضوية فهدعلي حسين وجماعته الجزء الاول جامعة بغداد 1977 Organic reaction mechanisms by Groutas, William 1st edition 2000		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	ORGANIC CHEMISTRY-2		Module Delivery	
Module Type	C		Theory Lecture Lab Tutorial Practical Seminar	
Module Code				
ECTS Credits	4.00			
SWL (hr/sem)	150			
Module Level		Semester of Delivery		
Administering Department		College		
Module Leader	د. نور عبد الرزاق		e-mail	
Module Leader's Acad. Title	استاذ مساعد	Module Leader's Qualification	Ph.D.	
Module Tutor		e-mail	None	
Peer Reviewer Name		e-mail		
Review Committee Approval		Version Number	1.0	

Relation with Other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	After careful study of this course the student should be able to: I- Introduction in organic chemistry, chemical bond, reaction of organic chemistry. II- Explain the meaning of the Alkanes: introduction, properties, names, preparations, mechanism, reactions. III- Define Dienes : introduction, properties, names, Alkynes: introduction, properties, names,, IV- Alkynes: preparations. V- Explain the Alkynes: , mechanism, reactions. VI- Cyclo alkane: introduction, properties, names, preparations. VII- Cyclo alkane: mechanism, reactions		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	8. It is well known that Organic chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 9. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 10. Students can handle the chemicals with good experience.		
Indicative Contents المحتويات الإرشادية	3. It is well known that Organic chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry.		
Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المناهج الأسبوعي النظري	
	Material Covered
Week 1	Aromatic compounds: (Part Two) Introduction to them, their structure, naming, properties, mechanics of preparation, and interactions.
Week 2	Alkyl halides: introduction, structure, nomenclature, properties, mechanics of preparation, reactions, and analysis. Written exam, semester 2.
Week 3	Alcohols: introduction, structure, nomenclature, properties, mechanics of preparation,, interactions, and analysis.

Week 4	Alcohols:, properties,
Week 5	Alcohols: mechanics of preparation,,
Week 6	Alcohols:, interactions, and analysis.
Week 7	First Exam
Week 8	Ethers: introduction, structure, nomenclature.
Week 9	Ethers: introduction, structure, nomenclature
Week 10	Alkynes: preparations
Week 11	Alkynes: , mechanism, reactions
Week 12	Cyclic ethers: introduction, structure, nomenclature
Week 13	Cyclic ethers:, reactions, mechanics, preparation, interactions, desalination.
Week 14	review
Week 15	Second Examination
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Definition of some laboratory equipment and chemical safety in the lab
Week 2	Preparation of alkyl halides
Week 3	Distinction between alcohols
Week 4	Distinguish between aldehyde and ketone
Week 5	Preparing aspirin
Week 6	Preparing soap
Week 7	Month exam

Learning and Teaching Resources

مصادر التعلم والتدريس

1. Organic chemistry by R. Morrisn and R. boyd ,4th Edition Allyn and Bacon1998

2-الكيمياء العضوية فهدعلي حسين وجماعته الجزء الاول جامعة بغداد 1977

Organic reaction mechanisms by Groutas, William 1st edition 2000

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Physical Chemistry-1		Module Delivery		
Module Type	C		Theory Lecture Lab Tutorial Practical Seminar		
Module Code					
ECTS Credits	4.00				
SWL (hr/sem)	150				
Module Level			Semester of Delivery		
Administering Department			College		

Module Leader	Hazim Yahya	e-mail	
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	After careful study of this course the student should be able to: I- List and describe the Thermodynamics . II- Explain the meaning of the System. III- Define First law of thermodynamicst, First law of thermodynamicst,. IV- Calculate the work . V- Explain the Carnot cycle . VI- Derive and use the work equation. VII- Define and calculate the free energy. VIII- Describe the general procedure for calculation of Entroyp. IX- Describe the types of Maxwell relashin ship. Free energy and Helmholtz energy for closed systems		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	11. It is well known that Physical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 12.Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 13. Students can handle the chemicals with good experience.		
Indicative Contents	4. It is well known that Physical chemistry is the main subject in		

المحتويات الإرشادية	chemistry which mean it can be taken in all types of chemistry.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Thermodynamics in general
Week 2	Zero law of thermodynamics
Week 3	The first law of thermodynamics

Week 4	Applications of the first law of thermodynamics
Week 5	Isothermal and literary processes
Week 6	The phenomenon of Jules - Thompson and its applications
Week 7	First exam.
Week 8	Hess's law and its applications
Week 9	Enthalpy change the reaction with temperature
Week 10	The second law of thermodynamics - basic concepts
Week 11	Entropy changes (for phase transfer, To expand and compress gases and to change temperatures)
Week 12	Free energy and Helmholtz energy for closed systems
Week 13	Third law of thermodynamics and its applications
Week 14	Second Exam.
Week 15	Discussion the home work
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Definition of some laboratory equipment and chemical safety in the lab
Week 2	Preparation and standardization of hydrochloric acid against borax or sodium carbonate
Week 3	Preparation and standardization of hydrochloric acid against sodium hydroxide
Week 4	Preparation and standardization of sodium hydroxide and sodium carbonate against hydrochloric acid
Week 5	Preparation and determination of acetic acid against sodium hydroxide
Week 6	Preparation and determination of chloride ion by Mohr's method titration.
Week 7	Determination of water hardness.

Learning and Teaching Resources مصادر التعلم والتدريس Physical Chemistry, Atkins, 6th ed. 2001 .Problems in physical chemistry 1st , by K.K. Shrma,1994
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.Physical chemistry 5th by Walter J. Moor, 1972 • .Physical chemistry 7th by Robert Al-Berty, 1987 •		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Separation Methods		Module Delivery
Module Type	C		Theory Lecture Lab Tutorial Practical Seminar
Module Code			
ECTS Credits	3.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	

Module Leader	د. اسيل مشتاق كاظم	e-mail	
Module Leader's Acad. Title	استاذ مساعد	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	First objective of this course is to provide enough information regarding analytical chemistry in term of preparation and instrumental analysis. Second objective is to develop an ability to distinguish between the accuracy and precision of experimental data and to show how to solve some challenges during the lab work. Third objective is to definition the developed and classical analysis methods. Fourth objective is to enable the students in preparation different solutions in different expression and how to related among them. Fifth objective is teaching the students the laboratory skills that will give students confidence in their ability to obtain high-quality analytical data.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	14. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 15. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 16. Students can handle the chemicals with good experience. 17. Students can develop their thoughts to create some projects that are useful in the field.		
Indicative Contents المحتويات الإرشادية	Analytical chemistry deals with methods for determining the chemical composition of samples of matter. A qualitative method yields information about the identity of atomic or molecular species or the functional groups in the sample. A quantitative		

	method
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطلاب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Analytical separation methods
Week 2	Analytical class classification
Week 3	Separation by sedimentation

Week 4	Separation by distillation
Week 5	Extraction
Week 6	Ion exchangers
Week 7	Chromatography
Week 8	First Exam
Week 9	Analytical separation methods
Week 10	Analytical class classification
Week 11	Separation by sedimentation
Week 12	Separation by distillation
Week 13	Extraction
Week 14	Second Exam
Week 15	Chromatography
Week 16	

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Determination of aluminum in homogeneous solutions
Week 2	Cement analysis
Week 3	Ion exchange separation methods and testing
Week 4	Preparing the ion exchanger column and estimating the total capacity of the column
Week 5	Determine the ratio of sodium chloride and nitrate in a model
Week 6	Determine the hardness of water using a cation exchanger.
Week 7	Paper and thin layer chromatography.

Learning and Teaching Resources

مصادر التعلم والتدريس

1-Douglas A. Skoog , Fundamentals of analytical chemistry 4th edit. Holt Rinehart

- مدخل الى تقنيات الفصل في الكيمياء ، د. سمير عبد الرحيم ، جامعة الموصل 1985

3- طرق الفصل في التحليل الكيميائي ، د. البرتین حبوش ، مطبعة جامعة بغداد 1982

4

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	COMPUTER		Module Delivery
Module Type	B		Theory Lecture Lab Tutorial Practical Seminar
Module Code			
ECTS Credits	2.00		
SWL (hr/sem)	150		
Module Level			
Administering Department			College

Module Leader	HazimYahya	e-mail	
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Teaching the student to be familiar with the basic rules for dealing with and managing a computer to help him complete projects Printing matters, preparing statistics and graphs, creating presentations and designing engineering plans And others, and the emergence of the Internet as a means of communication available to everyone, it has become very necessary for students to learn to use Computer due to the role of the Internet in many fields, including education, scientific research, trade and marketing		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	18. The student's understanding of the material 19. The ability to analyze and apply what you have learned practically on the calculator 20. The evaluation should be done by presenting the material to the students in the laboratory and then applying it		
Indicative Contents المحتويات الإرشادية	The theoretical method and explanation is by presenting the material on the Point Power program in the form of diagrams and pictures This is to attract the student's attention and help him not feel bored. The practical method is to apply what has been presented On the calculator and conduct daily and monthly exams.		

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Phases of the computer course And its generations and data And information
Week 2	Computer features And areas of its use And its components

Week 3	Types of computers And its classification
Week 4	Computer components and parts Physical input devices And the output
Week 5	Computer box and software entity
Week 6	Preparation systems and personal computers
Week 7	first exam
Week 8	Computer platform and factors Which should be considered when purchasing the computer
Week 9	Main features of a personal computer
Week 10	viruses the computer
Week 11	Damage resulting from Viruses
Week 12	• The most important steps • Viruses- • Necessary to protect against hacking •
Week 13	• Virus components • Computer damage • And its types •
Week 14	• Second Exam.
Week 15	• Sources of hacking and risks

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	

Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

- [1] Mars climate orbiter. <http://mars.jpl.nasa.gov/msp98/orbiter/>, 1999. [Online; accessed 17-March-2015].
 [2] Moth in the machine: Debugging the origins of 'bug'. Computer World Magazine, September 2011. [3] [errno.h: system error numbers - base definitions reference. http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/errno.h.html](http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/errno.h.html), 2013. [Online; accessed 13-September-2015].

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	COMPUTER	Module Delivery
Module Type	B	Theory Lecture Lab Tutorial Practical
Module Code		
ECTS Credits	2.00	

SWL (hr/sem)	150	Seminar		
Module Level		Semester of Delivery		
Administering Department		College		
Module Leader	HazimYahya	e-mail		
Module Leader's Acad. Title	Prof.	Module Leader's Qualification	Ph.D.	
Module Tutor		e-mail	None	
Peer Reviewer Name		e-mail		
Review Committee Approval		Version Number	1.0	

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Teaching the student to be familiar with the basic rules for dealing with and managing a computer to help him complete projects Printing matters, preparing statistics and graphs, creating presentations and designing engineering plans And others, and the emergence of the Internet as a means of communication available to everyone, it has become very necessary for students to learn to use Computer due to the role of the Internet in many fields, including education, scientific research, trade and marketing		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	21. The student's understanding of the material 22. The ability to analyze and apply what you have learned practically on the calculator 23. The evaluation should be done by presenting the material to the students in the laboratory and then applying it		

Indicative Contents المحتويات الإرشادية	The theoretical method and explanation is by presenting the material on the Point Power program in the form of diagrams and pictures This is to attract the student's attention and help him not feel bored. The practical method is to apply what has been presented On the calculator and conduct daily and monthly exams.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Phases of the computer course And its generations and data

	And information
Week 2	Computer features And areas of its use And its components
Week 3	Types of computers And its classification
Week 4	Computer components and parts Physical input devices And the output
Week 5	Computer box and software entity
Week 6	Preparation systems and personal computers
Week 7	first exam
Week 8	Computer platform and factors Which should be considered when purchasing the computer
Week 9	Main features of a personal computer
Week 10	viruses the computer
Week 11	Damage resulting from Viruses
Week 12	• The most important steps • Viruses- • Necessary to protect against hacking •
Week 13	• Virus components • Computer damage • And its types •
Week 14	• Second Exam.
Week 15	• Sources of hacking and risks

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

- [1] Mars climate orbiter. <http://mars.jpl.nasa.gov/msp98/orbiter/>, 1999. [Online; accessed 17-March-2015].
 [2] Moth in the machine: Debugging the origins of ‘bug’. Computer World Magazine, September 2011. [3]
 errno.h: system error numbers - base definitions reference. <http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/errno.h.html>, 2013. [Online; accessed 13-September-2015].

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	ENGLISH LANGUAGE	Module Delivery

Module Type	B			Theory Lecture Lab Tutorial Practical Seminar	
Module Code	UOBAB0603026				
ECTS Credits	2.00				
SWL (hr/sem)	150				
Module Level			Semester of Delivery		
Administering Department			College		
Module Leader	Amina Ameer		e-mail		
Module Leader's Acad. Title			Module Leader's Qualification		Ph.D.
Module Tutor			e-mail	None	
Peer Reviewer Name			e-mail		
Review Committee Approval			Version Number		1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	1- Explaining the material in a clear and understandable way for all students. 2. Involve students in discussing and solving exercises. 3- Explaining the study material using various methods An explanation to develop students' abilities and break boredom in the classroom		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	24. The student's understanding of the material 25. The ability to analyze and apply what you have learned practically on the English 26. The evaluation should be done by presenting the material to the students in the laboratory and then applying it		

Indicative Contents المحتويات الإرشادية	The theoretical method and explanation is by presenting the material on the Point Power program in the form of diagrams and pictures This is to attract the student's attention and help him not feel bored. The practical method is to apply what has been presented On the calculator and conduct daily and monthly exams.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطلاب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered

Week 1	Present simple (I Do)
Week 2	Present continuous and simple 1
Week 3	Present continuous and simple 2
Week 4	Past simple (IDid)
Week 5	Past continuous (I was doing)
Week 6	Present perfect 1(have done)
Week 7	Present perfect 2(I have done)
Week 8	Present perfect continuous (I have been doing)
Week 9	Present perfect continuous and simple
Week 10	First Exam
Week 11	For and since When ..? and how long
Week 12	Present perfect and past 1(I have done and Did)
Week 13	Past perfect (I had done)
Week 14	Past perfect continuous (I had been doing)
Week 15	Second Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد عملي في هذه المادة
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس
Stern, H.H. (1992). Issues and options in language teaching (edited posthumously by Patrick Allen & Birgit Harley). Oxford: Oxford University Press. Ur, P. (1996). A Course in Language Teaching.

Cambridge: Cambridge University Press. Vermes, A. (2010). Translation in foreign language teaching: A brief overview of pros and cons, Eger, Journal of English Studies, 10, 83-93.

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي

	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Chemistry of represented elements 1		Module Delivery		
Module Type	C		Theory Lecture Lab Tutorial Practical Seminar		
Module Code					
ECTS Credits	3.00				
SWL (hr/sem)	150				
Module Level			Semester of Delivery		
Administering Department			College		

Module Leader	د. محمد حامد سعيد	e-mail	
Module Leader's Acad. Title	استاذ	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry. The relationship between chemical elements and their compounds is based primarily on atomic structures and electronic configurations. Chemical bonding of different types are found in molecular and ionic compounds, and these bonding types are discussed in terms of the latest theories and experimental results. Topics such as coordination compounds, boron hydrides, metal cluster compounds, metal carbonyls, solid state structures, and the geometry of finite molecular species are presented. The correlation of physical properties with structure, composition, and electronic states of the metal ionics are developed, based on theoretical considerations.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	27. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 28. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 29. Students can handle the chemicals with good experience. 30. Students can develop their thoughts to create some projects that are		

	useful in the field.
Indicative Contents المحتويات الإرشادية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered

Week 1	1- A general introduction to the periodic table.
Week 2	2- A general review of the basics of periodic change in physical and chemical properties.
Week 3	3- Introduction to methods of preparing and extracting elements and their compounds.
Week 4	4- Division of elements according to properties
Week 5	5- Study of the element hydrogen
Week 6	6- Study of the basic compounds of hydrogen
Week 7	7- Exam1
Week 8	8- Study the first group and methods of preparing it
Week 9	9- Study the uses of the elements of the first group
Week 10	10- Study the second group and methods of preparing it
Week 11	11- Study the uses of the elements of the second group
Week 12	12- Study of the third group and methods of preparing it
Week 13	13- Study the properties of boron and aluminum
Week 14	14- Study the uses of the elements of the third group
Week 15	Exam2
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Definition of some laboratory equipment and chemical safety in the lab
Week 2	Preparation and standardization of hydrochloric acid against borax or sodium carbonate
Week 3	Preparation and standardization of hydrochloric acid against sodium hydroxide
Week 4	Preparation and standardization of sodium hydroxide and sodium carbonate against hydrochloric acid

Week 5	Preparation and determination of acetic acid against sodium hydroxide
Week 6	Preparation and determination of chloride ion by Mohr's method titration.
Week 7	Determination of water hardness.

Learning and Teaching Resources

مصادر التعلم والتدريس

- 1- د. نعمان النعيمي "الكيمياء اللاعضوية" الجزء الأول والثاني ، مطبعة جامعة بغداد ، 1978.
 د. أحسان عبد الغني مصطفى " الكيمياء اللاعضوية والتناسقية " ، مطبعة جامعة الموصل ، 1988.
 2- د. باسم محمد سعيد " الكيمياء اللاعضوية العملي " ، مطبعة جامعة الموصل ، 1987.

3- P.J.Durrant " General and inorganic chemistry" , 3rd edition, Dai Nippon Printing Co(H.K) Ltd, 1964

4- J.D. Lee " Consice inorganic chemistry", 1970

5- M.R.Wright " An Introduction to Aqueous Electrolyte Solution" , John wiley and sons, 2007

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



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	Ministry of Higher Education and Scientific Research - Iraq University of Babylon College of Science for women Department of Chemistry	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	Chemistry of represented elements 2	Module Delivery
Module Type	C	Theory Lecture Lab Tutorial Practical
Module Code		
ECTS Credits	3.00	

SWL (hr/sem)	150	Seminar		
Module Level		Semester of Delivery		
Administering Department		College		
Module Leader	د. محمد حامد سعيد	e-mail		
Module Leader's Acad. Title	استاذ	Module Leader's Qualification	Ph.D.	
Module Tutor		e-mail	None	
Peer Reviewer Name		e-mail		
Review Committee Approval		Version Number	1.0	

Relation with Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry. The relationship between chemical elements and their compounds is based primarily on atomic structures and electronic configurations. Chemical bonding of different types are found in molecular and ionic compounds, and these bonding types are discussed in terms of the latest theories and experimental results. Topics such as coordination compounds, boron hydrides, metal cluster compounds, metal carbonyls, solid state structures, and the geometry of finite molecular species are presented. The correlation of physical properties with structure, composition, and electronic states of the metal ionics are developed, based on theoretical considerations.		
Module Learning Outcomes	31. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 32. Students are able to prepare the accurate concentration for the		

مخرجات التعلم للمادة الدراسية	solutions in any lab they do experiment. 33. Students can handle the chemicals with good experience. 34. Students can develop their thoughts to create some projects that are useful in the field.
Indicative Contents المحتويات الإرشادية	Inorganic chemistry is the study of the chemical elements and the reactions which these elements undergo. With the exclusion of carbon, there exist some 90 naturally-occurring chemical elements. The broad classification of these elements, first in the Periodic Table, then in special families, groups, and periods, form the basis of inorganic chemistry.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Group VII B elements, compounds of halogens with hydrogen, halides and methods of preparing them.
Week 2	Interstitial halogen compounds, polyhalide ions, semi-halogens.
Week 3	Group II B elements, their electronic structure and tendency to form complexes, mercury compounds (oxides, hydroxides).
Week 4	Mercury halides, mercury complexes, organic compounds of zinc, cadmium and mercury
Week 5	Noble gases, their existence and uses, helium chemistry.
Week 6	Chemistry of xenon, xenon compounds (fluorides, their preparation and forms, xenon (II) oxide and hydroxide), molecular addition compounds.
Week 7	7- Exam1
Week 8	Xenon (IV) compounds, its fluorides and chlorides.
Week 9	Xenon (VI) compounds, its fluorides, methods of preparation, chemical and physical properties, xenon trioxide
Week 10	Hexa xenes, xenon (VIII) compounds (fluorides, xenon tetraoxide, octa xenes)
Week 11	Chemistry of krypton and its compounds
Week 12	Chemistry and compounds of radon (radon fluorides)
Week 13	Introduction to nuclear chemistry
Week 14	The ratio of isotopes in nature, the ratio of neutrons to protons, radioactive decay. Application areas of accelerators, chemical purity, benefits and harms of radiation.
Week 15	Exam2
Week 16	

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Preparation of ferric hydroxide

Week 2	Preparation of cuprous chloride
Week 3	Preparation of silver oxide
Week 4	Preparation of mercury acetate
Week 5	Detection of carbonate and bicarbonate acid moieties
Week 6	Detection of sulfite acid moiety Detection of the acidic thiosulfite moiety
Week 7	Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

- 1- د. نعمان النعيمي "الكيمياء اللاعضوية" الجزء الأول و الثاني ، مطبعة جامعة بغداد ، 1978.
د. أحسان عبد الغني مصطفى " الكيمياء اللاعضوية والتناسقية " ، مطبعة جامعة الموصل ، 1988.
- 2- د. باسم محمد سعيد " الكيمياء اللاعضوية العملي " ، مطبعة جامعة الموصل ، 1987.

- 3- P.J.Durrant " General and inorganic chemistry" , 3rd edition, Dai Nippon Printing Co(H.K) Ltd, 1964
- 4- J.D. Lee " Consice inorganic chemistry", 1970
- 5- M.R.Wright " An Introduction to Aqueos Electrolyte Solution" , John wiley and sons, 2007

	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				



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Ministry of Higher Education and
Scientific Research - Iraq
University of Babylon
College of Science for women
Department of Chemistry



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Gravimetric analysis		Module Delivery
Module Type	C		Theory Lecture Lab Tutorial Practical Seminar
Module Code			
ECTS Credits	3.00		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader	د. اسيل مشتاق كاظم	e-mail	
Module Leader's Acad. Title	استاذ مساعد	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	None
Peer Reviewer Name		e-mail	
Review Committee Approval		Version Number	1.0

Relation with Other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	First objective of this course is to provide enough information regarding analytical chemistry in term of preparation and instrumental analysis. Second objective is to develop an ability to distinguish between the accuracy and precision of experimental data and to show how to solve some challenges during the lab work. Third objective is to definition the developed and classical analysis methods. Fourth objective is to enable the students in preparation different solutions in different expression and how to related among them. Fifth objective is teaching the students the laboratory skills that will give students confidence in their ability to obtain high-quality analytical data.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	35. It is well known that analytical chemistry is the main subject in chemistry which mean it can be taken in all types of chemistry. 36. Students are able to prepare the accurate concentration for the solutions in any lab they do experiment. 37. Students can handle the chemicals with good experience. 38. Students can develop their thoughts to create some projects that are useful in the field.		
Indicative Contents المحتويات الإرشادية	Analytical chemistry deals with methods for determining the chemical composition of samples of matter. A qualitative method yields information about the identity of atomic or molecular species or the functional groups in the sample. A quantitative method		
Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies			

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	64
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	68	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	68

Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150
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Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	A general idea about weight analysis and basic principles
Week 2	Classification of gravimetric analysis methods
Week 3	Types of precipitants and exam
Week 4	solubility
Week 5	Precipitate contamination
Week 6	Precipitation from homogeneous solutions
Week 7	Organic reagents and testing
Week 8	First Exam
Week 9	Analytical separation methods
Week 10	Analytical class classification
Week 11	Separation by sedimentation
Week 12	Separation by distillation

Week 13	Extraction
Week 14	Second Exam
Week 15	Chromatography
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Definition of some laboratory equipment and chemical safety in the lab
Week 2	Preparation and standardization of hydrochloric acid against borax or sodium carbonate
Week 3	Preparation and standardization of hydrochloric acid against sodium hydroxide
Week 4	Preparation and standardization of sodium hydroxide and sodium carbonate against hydrochloric acid
Week 5	Preparation and determination of acetic acid against sodium hydroxide
Week 6	Preparation and determination of chloride ion by Mohr's method titration.
Week 7	Determination of water hardness.

Learning and Teaching Resources مصادر التعلم والتدريس		
1-Douglas A. Skoog , Fundamentals of analytical chemistry 4th edit. Holt Rinehart - مدخل الى تقنيات الفصل في الكيمياء ، د. سمير عبد الرحيم ، جامعة الموصل 1985 3- طرق الفصل في التحليل الكيميائي ، د. البرتتين حبوش ، مطبعة جامعة بغداد 1982 - Hein Morris ,Leo R. Best ,Scott Patinson and Susan , An introduction to general chemistry , 7th edition , 20014		
	Text	Available in the Library?
Required Texts		yes
Recommended Texts		No
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
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Note:				
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Ministry of Higher Education and Scientific Research

Scientific Supervision and Evaluation device

Department of Quality Assurance and Academic Accreditation

International Accreditation Department

***Academic Program Description For the
Department of Chemistry for the Academic year
2025-2024 according Bologna process***



Academic Program Description Form

University Name: University of Babylon

College/Institute: College of Science for Women

Name of the academic or professional program: Bachelor's in Chemistry

Name of final degree: Bachelor's in Chemistry

Study system: Bologna track

Description preparation date: 20/11/2024

Date of filling out the file: 19/2/2025

Name of Department Head

Hazim Yahya Mohammed Ali

Date: 6 / 3 / 2025

Signature: Signature:

Name of Scientific Assistant

Dr. Kawthar Mohammed Ali Hassan

Date: 6 / 3 / 2025

The file is checked by

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Mohammed J.Jader

Date: 6 / 3 / 2025

Signature:



Approval of the Dean

Academic Program Description

1. Program Vision

Preparing a scientific and technical staff specialized in chemical analysis techniques with the ability to deal with all techniques in chemical analysis with high professionalism, including analyzes concerned with treating pollution from heavy chemical substances and elements such as lead and mercury that affect the lives of citizens. The department also contributes to the scientific research movement and introductory, developmental and advisory conferences. The unified curricula have been adopted with most Iraqi universities - the Department of Chemistry for the purpose of easy movement between departments in addition to scientific benefit from them, taking into account the requirements of the college as a scientific college according to Bologna process.

2. Program Mission

The Department of Chemistry at the College of Science for Girls seeks, in integration with the college's mission, to meet the community's needs for cadres specialized in chemistry, such as pathological analyzes and the use of modern techniques in the field of analysis of toxic and non-toxic elements in all scientific and practical applications, especially in the medical and industrial fields, and the preparation of cadres required by this. Specialized research to work in this field and keep up with the latest developments in it Bologna process.

In order to achieve the vision of the College of Science for Girls and to carry out its pioneering role in assuming a prominent scientific position among local, Arab and foreign colleges, the Department of Chemistry seeks to disseminate and consolidate the latest information about chemistry in Iraqi society to keep pace with the tremendous development that has been achieved during the last three decades in this field and at all levels of Nanotechnology and even outer space.

3. Program Objectives

- .1 Preparing efficient cadres in the field of chemistry sciences
- .2 Contribute to the development of cadres working in the field of chemical sciences in various sectors such as the manufacture of fertilizers, oils and dairy.
- .3 Developing the work system in the field of chemistry
- .4 Spreading scientific awareness in the field of chemistry
5. Calculation of work in the industrial field related to chemistry according to Bologna process.

4. Programmatic Accreditation

nothing

5. Other External Influences

nothing

6. Program Structure

<i>Program Structure</i>	<i>Number of courses</i>		<i>Credit hours</i>		<i>Percentage</i>	<i>Reviews</i>
Enterprise Requirements	The first stage,Course (1), according to the Bologna system	2	The first stage,Course (1), according to the Bologna system	4	%13.3	Basic
	The first stage,Course (2), according to the Bologna system	2	The first stage,Course (2), according to the Bologna system	5	%16.6	
Total summation		10		19		

College Requirements	The first stage,Course (1), according to the Bologna system	1	The first stage,Course (1), according to the Bologna system	5	%16.6	Basic
	The first stage,Course (2), according to the Bologna system	1	The first stage,Course (2), according to the Bologna system	4	%13.3	
Total summation		2		9		
Department Requirements	The first stage,Course (1), according to the Bologna system	3	The first stage,Course (1), according to the Bologna system	21	%70	Basic
	The first stage,Course (2), according to the Bologna system	3	The first stage,Course (2), according to the Bologna system	21	%70	
Total summation		48		143		
Summer Training	1		-			Basic

7. Program Description

Year/level	course code	Name of the course	Credit hours	
			Theoretical	Practical

المرحلة الاولى- نظام بولونيا 2024-2025

		Republic of Iraq - Ministry of Higher Education and Scientific Research University of Babylon Bachelor's degree in chemistry science (First cycle) Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr Program Curriculum (2024 - 2025)					جمهورية العراق - وزارة التعليم العالي والبحث العلمي جامعة بابل بكالوريوس في علوم الكيمياء (الدورة الأولى) أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة ائتمانية - كل وحدة ائتمانية = ٢٥ ساعة المنهاج الدراسي للعام ٢٠٢٤-٢٠٢٥																									
Level	Semeste	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se m	SSW L hr/se m	USSW L hr/se m	SWL hr/se m	ECTS	Modul e Type	Prerequisite Module(s) Code													
							CL (hr/w)	ect	(hr/w)	ab	(hr/w)	Pr								(hr/w)	Tut	(hr/w)	em	(hr/w)								
One	1	CHEM1111	Qualitative Analysis Chemistry	كيمياء التحليل النوعي	English	2	0	2	0	0	0	0	3	63	137	200	8.00	C														
	2	CHEM1112	Inorganic1	اللاعضوية ١	English	2	0	0	0	0	0	0	3	33	142	175	7.00	C														
	3	CHEM1103	Cytology	علم الخلية	English	2	0	2	0	0	0	0	3	63	87	150	6.00	S														
	4	CHEM1104	Labortary Safty	السلامة والامن الكيميائي	English	2	0	0	0	0	0	0	3	33	92	125	5.00	S														
	5	UOBAB1104	Human and Democracy	حقوق الانسان والديمقراطية	Arabic	2	0	0	0	0	0	0	3	33	17	50	2.00	B														
	6	UOBAB1102	Arabic Language	اللغة العربية	Arabic	2	0	0	0	0	0	0	3	33	17	50	2.00	B														
	Total						12	0	4	0	0	0	18	258	492	750	30.00															
UGI	Semeste	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se m	SSW L hr/se m	USSW L hr/se m	SWL hr/se m	ECTS	Modul e Type	Prerequisite Module(s) Code													
							CL (hr/w)	ect	(hr/w)	ab	(hr/w)	Pr								(hr/w)	Tut	(hr/w)	em	(hr/w)								
							1	CHEM1201	Volumetric Analysis Chemistry	كيمياء التحليل الحجمي	English	2								0	2	0	0	0	0	3	63	137	200	8.00	C	CHEM1111
							2	CHEM1202	Inorganic 2	اللاعضوية ٢	English	2								0	0	0	0	0	0	3	33	142	175	7.00	C	CHEM1112
							3	CHEM1203	Mathematics I	رياضيات I	English	2								0	0	0	0	0	0	3	33	67	100	4.00	S	
							4	CHEM1204	Physics Science	الفيزياء	English	2								0	2	0	0	0	0	3	63	87	150	6.00	S	
							5	UOBABb4	Computer I	حاسوب I	Arabic	2								0	0	0	0	0	0	3	33	42	75	3.00	B	
6	UOBABb1101	English Language I	لغة الانكليزية I	English	2	0	0	0	0	0	0	3	33	17	50	2.00	B															
Total						12	0	4	0	0	0	18	258	492	750	30.00																

المرحلة الثانية - نظام بولونيا 2024 - 2025

Republic of Iraq - Ministry of Higher Education and Scientific Research University of Babylon Bachelor's degree in chemistry science (First cycle) Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr Program Curriculum (2024 - 2025)							جمهورية العراق - وزارة التعليم العالي والبحث العلمي جامعة بابل بكالوريوس في علوم الكيمياء (الدورة الأولى) أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة ائتمانية - كل وحدة ائتمانية = ٢٥ ساعة المنهاج الدراسي للعام ٢٠٢٤-٢٠٢٥												
Level	Semester	No.	Module Code	Module Name In English	اسم المادة الدراسية	Language	SSVL (hr/w)						Exam	SSVL	USSVL	SVL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Sem (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
	One	1	CHEM2311	Chemistry of represented elements 1	كيمياء العناصر الممثلة ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C	
		2	CHEM2302	Gravimetric analysis	التحليل الوزني	English	2	0	2	0	0	0	3	63	87	150	6.00	C	
		3	CHEM2313	Thermodynamics1	الديناميكية الحرارية ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C	
		4	CHEM2314	Organic Chemistry1	الكيمياء العضوية ١	English	2	0	2	0	0	0	3	63	87	150	6.00	C	
		5	CHEM2305	Differential equations	المعادلات التفاضلية	English	2	0	0	0	0	0	3	33	42	75	3.00	S	
		6		Computer 2	الحاسوب ٢	English	2	0	0	0	0	0	3	33	42	75	3.00	S	
	Total							12	0	8	0	0	0	18	318	432	750	30.00	
UGI	Two	1	CHEM2401	Chemistry of represented elements 2	كيمياء العناصر الممثلة ٢	English	2	0	2	0	0	0	3	63	87	150	6.00	C	CHEM2311
		2	CHEM2402	Separation Methods	طرق الفصل	English	2	0	2	0	0	0	3	63	87	150	6.00	C	
		3	CHEM2403	Thermodynamics 2	الديناميكية الحرارية ٢	English	2	0	2	0	0	0	3	63	87	150	6.00	C	CHEM2313
		4	CHEM2404	Organic Chemistry 2	الكيمياء العضوية ٢	English	2	0	2	0	0	0	3	63	87	150	6.00	C	CHEM2314
		5	UOBAB2301	Baath Party crimes	جرائم البعث البائد	Arabic	2	0	0	0	0	0	3	33	17	50	2.00	S	
			UOBAB2302	English LanguageII	اللغة الانكليزية II	English	2	0	0	0	0	0	3	33	17	50	2.00	S	
			UOBAB1102	Arabic Language	اللغة العربية	Arabic	2	0	0	0	0	0	3	33	17	50	2.00	B	
Total							12	0	8	0	0	0	18	318	432	750	30.00		

8.The expected learning outcomes of the program

Knowledge

Knowledge and Understanding

- 1- 1. The student gets to know the concept of chemistry
- 2- 2. To classify the needs for developing chemistry
- 3- 3. To separate the chemical specifications according to the ISO system
- 4- 4. To evaluate the cost of maintaining chemical manufacturing equipment

Skills

Subject-Specific Skills

- .1The student's knowledge of the concept of chemistry
- .2The importance of chemistry in areas of life
3. Enabling female students to analyze the costs of working in the chemical industry

Thinking Skills

- .1Thinking skill according to the student's ability (the goal of this skill is for the student to believe in what is tangible (the student's abilities) and understand when, what and how he should think and work to improve the ability to think reasonably(
- .2 High thinking skill (the goal of this skill is to teach thinking well before making the decision that determines the student's life(
3. Critical thinking skills (a term that symbolizes the highest levels of thinking, which aims to pose a problem and then analyze it

الصفحة 7

Ethics

Evaluation methods	1- Exams 2- Learning Matrix 3- Which Face 4- CAT (student feedback) 5- Learning Triangle 6- Seminars 7- On line lecture
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9. Teaching and Learning Strategies

Learning strategies

1-Thinking strategy according to the student's ability (for example: if the student is able to learn the correct concept of management, he will acquire the skill of managing and organizing his personal life).

2- High thinking skill strategy (for example, if the student wants to make a good decision, it is important that he thinks well before he makes the decision, and if he decides without thinking, or if he cannot think well, or if he cannot decide, or perhaps he will not decide, then this This means he does not have high thinking skills.)

3- Critical thinking strategy in learning (Critical Thanking) (It is a term that symbolizes the highest levels of thinking, which aims to pose a problem and then analyze it logically to reach the desired solution).

4-Brainstorming

Methods of teaching and learning

1- Method of giving lectures.

2- Student Center

3- Student groups

- 4- Workshops
- 5- (Scientific trips to follow up on the environmental reality)
- 6- Learning Technologies on Campus
- 7- (Experiential learning)
- 8- Application Learning)

10. Evaluation methods

- 1- Exams
- 2- Learning Matrix
- 3- Which Face
- 4- CAT (student feedback)
- 5- Learning Triangle
- 6- practical
- 8- tutorial

11. Faculty

Faculty Members

Academic Rank	Instructor's name	Specialization		Special Requirements/skills (it applicable)	Number of the teaching staff	
		General	Special		staff	lecturer

Professor	Dr. Hazim Yahya Mohammed Ali	Chemistry	Physical Chemistry		√	
Professor	Dr. Ayad Fahdil Mohammed	Chemistry	Physical Chemistry		√	
Professor	Dr. Mohammed Hamid Saa'id	Chemistry	Inorganic Chemistry		√	
Professor	Dr. Talat Tariq Kahlil	Chemistry	Bio Chemistry		√	
Professor	Dr. Sadiq Abed Al hussain	Chemistry	Organic Chemistry/Polymer		√	
Professor	Dr. Fuad Fahdil Mohammed	Chemistry	Analytical Chemistry		√	
Professor	Dr. Assyl Moshtaq Kahdim	Chemistry	Analytical Chemistry		√	
Assistant Professor	Dr. Noor Abed Al razaq	Chemistry	Organic Chemistry		√	
Assistant Professor	Dr. Suad Taha Saad	Chemistry	Inorganic Chemistry		√	
Assistant Professor	Dr. Ahmed Hassan Shintaf	Chemistry	Organic Chemistry		√	
Assistant Professor	Dr. Ali Talib Bader	Chemistry	Inorganic Chemistry		√	
Assistant Professor	Dr. Zainab Hashim Khudaier	Chemistry	Analytical Chemistry		√	
Assistant Professor	Dr. Ziyad Omran Musaa	Chemistry	Organic Chemistry		√	
Teacher	Shiren Hamza Abbas	Chemistry	Bio Chemistry		√	
Teacher	Mohammed Edan Hassan	Chemistry	Analytical Chemistry		√	
Teacher	Ali Mohsum Mohammed	Chemistry	Physical Chemistry		√	
assistant teacher	Rana Salah Norri	Chemistry	Bio Chemistry		√	

Professional Development

Mentoring new faculty members

Teaching, like any other art, can be acquired by practicing and following its methods and principles, provided that there is a sincere desire to practice the teaching profession, and the method in education means taking interconnected steps to reach a specific goal that you hope to achieve. Therefore, it must follow the basic principles of good teaching, which are:

- 1- Directing and guiding learners by creating educational situations that lead to desirable activities.
- 2- Providing an atmosphere of love, kindness and cooperation between the teacher and the learners and between the learners themselves through his love for his students without discrimination and not excessive feminization.
- 3- Adopting democratic leadership through the emotional relationship between the teacher and his students, which leads them to control based on mutual respect and creating a cooperative atmosphere between the students and between the teacher and his students.

Professional development for faculty members

- 1- Thinking strategy according to the student's ability (for example: if the student is able to learn the correct concept of management, he will acquire the skill of managing and organizing his personal life). And the high thinking skill strategy (for example, if the student wants to make a good decision, it is important that he thinks well before he makes the decision, and if he decides without thinking or if he cannot think well or if he cannot decide or perhaps he will not decide, this means He does not have high thinking skills.)
- 2- General and transferable skills (other skills related to employability and personal development).
- 3- Verbal communication.
- 4- Teamwork.
- 5- Analysis and investigation (collecting information systematically and scientifically to establish facts and principles for solving the problem).

12. Acceptance criterion

Central acceptance and parallel acceptance

13. The most important sources of information about the program

1- The website of the college and university.

<https://csg.uobabylon.edu.iq/>

<https://csg.uobabylon.edu.iq/department/?cdid=4>

https://csg.uobabylon.edu.iq/department/dep_lectures.aspx?cdid=4

2- University guide <https://systems.uobabylon.edu.iq/>

3- The most important books and resources in the college library.

14. Program development plan

The Bologna Process was applied to the students of the first stage, and work is being done to apply it to the next stages, along with conducting workshops and seminars to familiarize faculty members with the requirements of the Bologna Process and how to work with it, and to discuss the negatives and obstacles and find solutions for them. The electronic system was applied in the education process.

Program skills Outline

				Required program learning outcomes															
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics				Other skills related to employability and personal development			
				A₁	A₂	A₃	A₄	B₁	B₂	B₃	B₄	C₁	C₂	C₃	C₄	D₁	D₂	D₃	D₄
The first stage, Course (1), according to the Bologna system	UOBAB0603011	Qualitative Analytical chem.	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603012	Inorganic -1	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603013	Cytology	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603014	Laboratory safety	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBABb3	Human and Democracy	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB1102	Arabic Language	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Program skills Outline

				Required program learning outcomes															
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics				Other skills related to employability and personal development			
				A₁	A₂	A₃	A₄	B₁	B₂	B₃	B₄	C₁	C₂	C₃	C₄	D₁	D₂	D₃	D₄
The first stage, Course (2), according to the Bologna system	UOBAB0603021	Volumetric Analytical chem.	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603022	Inorganic -2	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603023	Mathematics	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603024	Physics Sciences	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603025	Computers Program	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0603026	English Language	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

