

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Chemistry		Module Delivery
Module Type	basic		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	PENG124		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	2
Administering Department	PENG	College	College of Engineering
Module Leader	Fayez Owaid Nemah	e-mail	E-mail: fayez.owaidnameh@alayen.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.d
Module Tutor	1- Alya Sattar thjell 2- Ahmed Ali Hussein	e-mail	engalyasattar@gmail.com hok200240@gmail.com
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date		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 Objectives أهداف المادة الدراسية	1. This is the basic subject for all engineering fields. 2. This course deals with the basic concept of chemical theoretical including, concentration of solution, acid and base, indicator. petroleum chemistry, principles of corrosion, and electric chemical. 3. The student will have the required skills to use the material and tools in the laboratory. 4. The student will have the required skills to prepare the solution, and identify the compounds.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A2 A.2.1: to define the chemical concept and the chemical changes in the matters A.2.2: to Understand the basic principles of chemistry A.2.3: classify the matter to element, compound and mixture a.2.3: to differentiate between the physical changes and the chemical changes A.2.4: to differentiate between the element, compounds and the mixtures A.2.5: apply the laws to solve analytical problems. A3 A.3.1: to define the material, tools and Devices in the chemical laboratory A 3.1: to classify the acid and base according to the indicator A.3.3: to apply the work to prepare standard solution A.4: to analyze the result and compare between the theoretical value and piratical value B1 B.1.1 Function efficiently as an individual

	B.1.2: function as a member of multidisciplinary and multicultural teams. C1 C1.1: Define professional and ethical responsibilities C1.2: Demonstrate diversity in their commitment to ethical responsibilities
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• Presentations • Discussions • Tutorial and graphics • Problem solving • Brain storming • Research and reporting • Problem Solving • Report & discussion assessment

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
Total SWL (h/sem)	125		

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

Formative assessment	Quizzes	2	10% (10)	5	A2, A3
	Assignments	2	10% (10)	4	All
	Projects / Lab.	1	10% (10)	10	A2, A3
	Report	1	10% (10)	13	All
Summative assessment	Midterm Exam	2hr	10% (10)	9	A2
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		
الحمل الدراسي الكلي للطالب خلال الفصل					

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري		LOs
	Material Covered	A2,B1,C1
Week 1	Introduction	A2,B1,C1
Week 2	Analytical chemistry	A2,B1,C1
Week 3	Acid and base	A2,B1,C1
Week 4	PH	A2,B1,C1
Week 5	Stoichiometry	A2,B1,C1
Week 6	chemical reaction and heat	A2,B1,C1
Week 7	Solutions	A2,B1,C1
Week 8	organic chemistry	A2,B1,C1
Week 9	fuels International strategy of energy	A2,B1,C1
Week 10	various batteries	A2,B1,C1
Week 11	electronic cells	A2,B1,C1
Week 12 and 13	principles of corrosion	A2,B1,C1
Week 14 and 15	water for domestic uses and industrial water	A2,B1,C1
Week 16	Preparatory week before the final Exam	A2,B1,C1

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر		LOs
	Material Covered	
Week 1	Introduction	A3,B1,C1
Week 2	Review of concepts chemistry	A3,B1,C1
Week 3	solution	A3,B1,C1
Week 4	indicator	A3,B1,C1

Week 5	acid base titration	A3,B1,C1
Week 6,7,8	preparation in chemical	A3,B1,C1
Week 9.10.11	petroleum chemistry	A3,B1,C1
Week 12,13	principles of corrosion	A3,B1,C1
Week 14,15	electric chemical	A3,B1,C1

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1-General chemistry, Darrell D. Ebbing and Steven D. Gammon, Houghton Mifflin Company,9 edition, New York, 2009. 2- General and Physical Chemistry	No
Recommended Texts		
Websites		

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	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks 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.