

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Medical Chemistry		Module Delivery
Module Type	basic		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☒ Practical ☐ Seminar
Module Code	MDER110		
ECTS Credits	5		
SSWL (hr/sem)	63		
USSWL (hr/sem)	62		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	
Administering Department	Biomedical Eng.	College	College of Engineering
Module Leader	Fayez Owaid Nemah	e-mail	E-mail: fayezchem2018@gmail.com
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.d
Module Tutor	Fatima Hammood Nief	e-mail	E-mail engbio2m18@utq.edu.iq
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 the gases law, solution, PH value and the nuclear chemistry. 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 للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب 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 and 10	A2, A3
	Assignments	2	10% (10)	2 and 12	All
	Projects / Lab.	1	10% (10)	Continuous	A2, A3
	Report	1	10% (10)	13	All
Summative assessment	Midterm Exam	2hr	10% (10)	7	A2
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)		LOs
المنهاج الاسبوعي النظري		
	Material Covered	A2,B1,C1
Week 1	Measurement and Properties of Matter, Metric System, Unit Conversion	A2,B1,C1
Week 2	Significant Figures	A2,B1,C1
Week 3	Gases and its application in medicine	A2,B1,C1
Week 4	Characteristics of Gases	A2,B1,C1
Week 5	Daltons law, Boyels law	A2,B1,C1
Week 6	Charles law, ideal gas law	A2,B1,C1
Week 7	Solutions	A2,B1,C1
Week 8	Molarity and normality	A2,B1,C1
Week 9	Isotonic solutions, Precipitation Analysis, Dilution, Osmosis and Osmotic Pressure of solutions	A2,B1,C1
Week 10	Acids and Bases, Ionization of Water	A2,B1,C1
Week 11	PH and its measurement, Buffers solution, Blood buffers, Acid-Base titration, Acid-Base Balance	A2,B1,C1
Week 12	Nuclear Chemistry, Radioactivity, Detection devices	A2,B1,C1
Week 13	Physiological effects of radiation, Isotopes	A2,B1,C1
Week 14	Uses of radioisotopes in medicine	A2,B1,C1
Week 15	Isomerism (Stereochemistry).	A2,B1,C1
Week 16	Preparatory week before the final Exam	A2,B1,C1



Delivery Plan (Weekly Lab. Syllabus)		LOs
المناهج الاسبوعي للمختبر		
	Material Covered	
Week 1	Introduction of concepts chemistry	A3,B1
Week 2	Melting point	A3,B1, C1
Week 3	Poiling point	A3,B1, C1
Week 4	Solution	A3,B1, C1
Week 5	Artificial blood	A3,B1, C1
Week 6	Titration	A3,B1, C1
Week 7	Detection of halogens	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.	yes
Recommended Texts	General and Physical Chemistry	No
Websites	https://eng.alayen.edu.iq//colleges/e/42	

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.



