MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	**General Chemistry**		**Module Delivery**
Module Type	**Core**		• ☒ **Theory** • ☒ **Lecture** • ☒ **Lab** • ☐ **Tutorial** • ☐ **Practical** • ☐ **Seminar**
Module Code	CHEM1103		
ECTS Credits			
SWL (hr/sem)			
Module Level		**Semester of Delivery**	1
Administering Department	Type Dept. Code	**College**	Type College Code
Module Leader	Dr. Ahmed Al-Ani	**e-mail**	ahmed.sabeeh@nahrainuniv.edu.iq
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	PhD
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Ahmed Al-Ani	**e-mail**	E-mail
Scientific Committee Approval Date	01/06/2023	**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 primary objective of this course is to acquire basic concepts, principles, and techniques of modern chemistry that would empower students with an analytical mind set and the abilities to solve diverse analytical problems in an efficient and quantitative way that conveys the importance of accuracy and precision of the analytical results. On successful completion of this course, students will be able: 1. To develop an understanding of the range and uses of analytical methods in chemistry. 2. To establish an appreciation of the role of chemistry in quantitative analysis 3. To develop an understanding of the broad role of the chemist in measurement and problem solving for analytical tasks. 4. To provide an understanding of chemical methods employed for elemental and compound analysis. 5. To provide experience in some scientific methods employed in analytical chemistry. 6. To develop some understanding of the professional and safety responsibilities residing in working on chemical analysis.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	After attending this course in general Chemistry, **t**he students have to be able to develop a basic knowledge of main principles of chemical methods as follows - To understand qualitative and quantitative properties of solutions, understanding all kinds of analytical concentrations. - To describe and explain chemical equilibriums of acid base reactions - Understanding the periodic table and atomic structure - Understanding ionic compounds, types of bonds and Metal and nonmetal - Understanding the acid/base reactions and titration methods - Effectively teach practical science through the context of general chemistry - Design problem solving activities to challenge student understanding of analytical method - Understanding the safe handling of chemicals and the principles apparatus and unit operation in general chemistry
Indicative Contents **المحتويات الإرشادية**	Indicative content includes the following. 1. Areas of general chemistry 2. The current role of general chemistry 3. Improve the student's mind by how he or she can deal with chemicals and its uses Teach students about hazardous chemicals and how can avoid any risk in the lab

Learning and Teaching Strategies استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises presented during the class, home works and quizzes. Furthermore, encourage the student participation in panel discussion.

Student Workload (SWL) **الحمل الدراسي للطالب**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	102	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	7
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	98	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	6.5
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	200		

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
Summative assessment	**Midterm Exam**	2 hr	30% (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 1-2	Matter, measurements and significant figures
Week 3-5	Atomic weight, molecular weight and moles calculations
Week 6-8	Chemical reactions in solutions and concentrations
Week 9-11	Periodic table and atomic structure
Week 12-14	Ionic compounds and types of bonds
Week 15	Acid base reactions and titrations
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
	Material Covered
Week 1	Lab 1: Safety rules and Laboratory equipments
Week 2	Lab 2: PH and indicators
Week 3	Lab 3: Acid base titration
Week 4	Lab 4: Preparation of sodium hydroxide
Week 5	Lab 5: Effect of concentration on reaction rate
Week 6	Lab 6: Preparation and reaction of barium peroxide
Week 7	Lab 7: Calculation the percentage of water in hydrated salt

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	1. Fundamental of analytical chemistry: Nine edition, Skoog	Yes
Recommended Texts	Fundamentals of chemistry: Fourth Edition, David E. Goldberg	Yes
Recommended Texts	Basic Inorganic Chemistry F. Albert Cotton, Geoffrey Wilkinson, Paul L. Gaus, , 3rd Edition, 1995	Yes
Websites	Different wabsites	

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group	**A -** Excellent	**امتياز**	90 - 100	Outstanding Performance

(50 - 100)	**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.