

نموذج توصيف مقرر
Course Description Form

Name of College\Faculty :

Faculty of Science

اسم الكلية:

Name of Department:

Chemistry Department

اسم القسم العلمي:

Course Name	General Chemistry, Pre Chemistry Course	اسم المقرر
Course No.	0420092	رقم المقرر
No. of Credits	0	عدد الوحدات
Theoretical Hours	3	عدد الساعات النظرية
Practical Hours	None	عدد الساعات المحلية
Course topics		مواضيع المقرر
1. Measurement and Problem-Solving 2. Matter and Energy 3. Atoms and Elements 4. Molecules and compounds 5. Chemical composition 6. Chemical Reactions 7. Quantities in Chemical Reactions 8. Electrons in Atoms and Periodic Table 9. Solutions 10. Chemical equilibrium 11. Oxidation & Reduction 12. Organic chemistry		
Text book: (Name, Author , Year , Publisher)		عنوان الكتاب : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)
Introductory Chemistry, Nivaldo J. Tro, PEARSON, Latest Edition.		
References: (Name , Author , Year . Publisher)		عنوان المرجع : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)
None		

Prerequisites None			متطلبات المقرر			
Grading	Exams (2 exams)	50	%		الاختبارات	آلية رصد المقرر
	Quizzes (Online)	5	%		امتحانات قصيرة	
	H.W. (Attendance)	5	%		واجبات	
	Project (field study)		%		مشاريع (دراسة ميدانية)	
	Final	40	%		الاختبار النهائي	
			100 %			

Chapters included:

No.	Subject	Chapter	Sections Excluded
1	Measurement and Problem-Solving	2	-
2	Matter and Energy	3	3.9, 3.11 & 3.12
3	Atoms and Elements	4	4.1, 4.2, 4.3
4	Molecules and compounds	5	5.6, 5.7, 5.8, 5.9, & 5.10
5	Chemical composition	6	-
6	Chemical Reactions	7	-
7	Quantities in Chemical Reactions	8	8.7
8	Electrons in Atoms and Periodic Table	9	9.5 & 9.9
9	Solutions	13	13.1, 13.2, 13.3, 13.4, 13.9 & 13.10
10	Chemical equilibrium	15	15.1-15.3 & 15.7-15.12
11	Oxidation & Reduction	16	16.4, 16.5, 16.6, 16.7 & 16.8
12	Organic chemistry	18	18.1-18.3 & 18.6, 18.7, 18.9, 18.17

Course objectives					
No.	Course Objectives (Learning Outcomes)	Example(s) of relevant (Topics and activities)	Recommended Level to satisfy the objectives		
			High	Medium	Low
1	1.1 be aware of modern systems of measurement and calculation. 1.2 understand the use of precision, accuracy and significant figures.	-Problems on scientific notation and significant figures. - Try listing various changes and ask the students if the	High		



	1.3 review some important basic concepts in chemistry such as matter, elements, compounds and energy. 1.4 identify the name or symbol for elements.	changes are physical or chemical. -List some measurable properties and ask students to classify them as physical or chemical changes.			
2	2.1 describe electrons, protons and neutrons and the atomic structure. 2.2 identify the periodic table location of groups, periods, metals, nonmetals and metalloids. 2.3 describe the Bohr model of the atom. 2.4 predict the allowed energy states of the electrons in an atom using the three quantum numbers. 2.5 write atomic electron configurations. 2.6 recognize how the properties of atoms change on moving down a group or across a period of the periodic table. 2.7 understand the differences between the main two chemical bonding, ionic and covalent. 2.9 introduce mole concept and molar mass. 2.10 use experimental data to determine the empirical formula and molecular formula of a compound.	-Lectures on Bohr's atomic model- exercises on quantum numbers- and electron configuration. -Discussion of the periodic table. -Handling chemical calculations on compounds and elements. -Apply mathematical and chemical reasoning to solve problems related to moles, stoichiometry, and percentage composition.	High		



3	3.1 apply stoichiometry principles to calculate mass of one reactant or product from the mass reactant or product by using the chemical equation. 3.2 assign the oxidation number for an element in a compound. 3.3 express the concentration of a solution in molarity and describe how to prepare a solution of a given molarity.	Problems on the law of conservation of mass, moles and molarity calculation exercises. -Balancing chemical equation.	High		
4	4.1 write an equilibrium expression for any chemical reaction. 4.2 Calculate the equilibrium constant	Analyse simple equilibrium problems.	High		
5	Recognize chemical properties of a class of organic compounds alkanes, alkenes... write names and structural formulas for hydrocarbons. identify important functional groups.	- Differentiate between alkanes, alkenes, and alkynes based on molecular formulas. -identifying functional groups.	High		
Fields	General Chemistry				
Skills	none				
Coordinator (Name and Rank) :	General Chemistry Coordinator				
Signature and stamp :					
Date:	10\ 11 \2025				