

نموذج توصيف مقرر
Course Description Form

Name of College\Faculty : Science
Name of Department: Chemistry

اسم الكلية:
اسم القسم العلمي:

Course Name	Inorganic Chemistry	اسم المقرر
Course No.	0420-237	رقم المقرر
No. of Credits	3	عدد الوحدات
Theoretical Hours	3	عدد الساعات النظرية
Practical Hours	0	عدد الساعات المعملية
Course topics	1. Atomic theory and structure 2. The theories of covalent bonding (VB, MOT). 3. The ionic bonding and ionic compounds (rock structure, CsCl, CaF, antifluoride, NiAs, etc). 4. The chemistry of hydrogen. 5. The chemistry of groups (IA to VIIIA): properties and applications. 6. Definition and characteristics of the transition Elements (<i>d- block and f- block</i>). 7. Coordination compound, coordination numbers and the structure of the coordination compounds.	مواضيع المقرر
Text book: (Name, Author , Year , Publisher) عنوان الكتاب : (الاسم ، المؤلف ، سنة الطبع ، دار النشر) Inorganic Chemistry: "Inorganic Chemistry" by Catherine E. Housecroft and Alan Sharpe		
References: (Name , Author , Year . Publisher) عنوان المرجع : (الاسم ، المؤلف ، سنة الطبع ، دار النشر) 1. Inorganic Chemistry by Gary Miessler, latest edition, Pearson. 2. Inorganic Chemistry by Duward Shriver, latest edition, W. H. Freeman.		

Prerequisites : 0420-102, 0420-106				متطلبات المقرر	
Grading	Exams		%	25	الاختبارات
	Quizzes		%	5	امتحانات قصيرة
	H.W.		%	5	واجبات
	Lab		%		مشاريع (دراسة ميدانية)
	Final		%	40	الاختبار النهائي
	100%				آلية رصد المقرر

Textbook Chapters

Chapter	Title	Sections Included
1	Introduction to the atomic structure	1-5
1	electronic configuration and periodic trends	7-10
5	The theories of covalent bonding and covalent compounds	2, 4
6	The ionic bonding and ionic compounds	11
10	The chemistry of hydrogen.	1-7
11-17	General chemistry of groups (IA to VIIA).	2- 6 from each chapter
18	The chemistry of Noble gases.	1-4
19	Definition and characteristics of the transition Elements (d- block).	1-6
27	Definition and characteristics of the transition Elements (f- block).	1-6
19	Coordination compound, coordination numbers and the structure of the coordination compounds	7

Chapter	Title	Sections Included	Modification
1	Basic concepts: atom	1-10	Add sec 6
2-	Basic concepts: molecule	Sections 2,3,8	New chapter
5	Bonding in polyatomic molecules	2, 4	Delete sec 4
6	Structure and energetics of metallic and ionic solids	11	Add sec 14
10	hydrogen.	1-7	
11-17	The groups (1-2, 13-17) elements .	2- 6 from each chapter	
18	The groups 18 elements .	1-4	
19	d-Block metal chemistry: general consideration	1-7	Add sec 8
25	Catalysis and some industrial processes	1, 5	New chapter
27	d-Block metal chemistry: coordination complexes	1-6	Delete sec 5, 6
29	The trace metals of life	1,2	New chapter

Course objectives					
No.	Course Objectives (Learning Outcomes)	Example(s) of relevant (Topics and activities)	Recommended Level to satisfy the objectives		
			High	Medium	Low
1	To introduce the atomic structure	1.1 describe the atomic structure. 1.2 illustrate the shape of the atomic orbitals.			



2	To study the bonding theories	2.1 describe covalent bonding using VBT and MOT. 2.2 describe ionic bonding and ionic lattice.			
3	To study the chemistry of the main group elements	3.1 define the general properties of the representative elements. 3.2 study the applications of representative elements.			
4	To study the chemistry of the transition elements	4.1 define the general properties of transition elements (<i>d-block and f-block</i>). 4.2 illustrate the structures of the coordination compounds with different coordination numbers. 4.3 identify the various types of isomerism in coordination compounds.			
Fields					
Skills					
Coordinator (Name and Rank) :	Convener of the Inorganic and Analytical Chemistry group				
Signature and stamp :					
Date:	11/11/2025				