

نموذج توصيف مقرر
Course Description Form

Name of College\Faculty :

اسم الكلية:

Name of Department:

اسم القسم العلمي:

Course Name	Inorganic Chemistry Lab, (0-6-2).	اسم المقرر
Course No.	CHEM 338	رقم المقرر
No. of Credits		عدد الوحدات
Theoretical Hours		عدد الساعات النظرية
Practical Hours		عدد الساعات المحلية
Course topics		مواضيع المقرر
1. The basic concepts of the instrumental analysis. 2. Quantitative application of the instrumental analysis 3. The chemistry of the transition elements. 4. The basic concepts of coordination compounds.		
Text book: (Name, Author , Year , Publisher)		عنوان الكتاب : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)
Laboratory manual prepared by the Department.		
References: (Name , Author , Year . Publisher)		عنوان المرجع : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)

Prerequisites						متطلبات المقرر
Grading	Quizzes		15%		الاختبارات	آلية رصد المقرر
	Reports		50%		تقارير	
	Final Quiz		15%		اختبار نهائي	
	Project		20%		مشاريع	
	Final				النهائي	
	%					

Course objectives					
No.	Course Objectives (Learning Outcomes)	Example(s) of relevant (Topics and activities)	Recommended Level to satisfy the objectives		
			High	Medium	Low
1	illustrate the theoretical bases of the application of different instrumental methods to investigate the structure of inorganic and coordination compounds.	Experiment 11. Kinetics of formation of [Cr(EDTAH)] Experiment 9 & 10. Geometrical Isomers: Cis & Trans Isomers of Dichlorobis(ethylenediamine) cobalt(III) Chloride			
2	carry out the synthesis of different coordination compounds	Experiment 1-8 (All synthesis-based)			
3	Run practical applications for substitution reactions in absence of solvent to prepare some complexes	Experiment 5. Preparation of some Co(III) complexes Experiment 7. D & E-Nitro and Nitritopentaamminecobalt(III) Chloride			
4	Applying the thermogravimetric analysis to demonstrate the thermal dissociation of solid complexes.	Experiment 2. Preparation of Potassium Dithionate (K ₂ S ₂ O ₆)			



5	apply the photochemical synthesis to synthesize some complexes.	Experiment 8. Copper and Nickel in the +3 Oxidation State			
	apply the oxidation reactions to synthesize different metal complexes	Experiment 3. Stabilization of Oxidation States (Tris(thiourea) copper(I) Sulphate) Experiment 4. Preparation of Chromium(II) Acetate Hydrate			
	carry out a substitution reaction involving solvent molecules	Experiment 6. B-Chloropentaamminecobalt (III) Chloride & C-Aquapentaammine Salt			
	prepare and differentiate between <i>cis</i> - and <i>trans</i> -isomers utilizing different physical and chemical methods	Dichlorobis(ethylenediamine) Cobalt(III) chloride complexes			
	prepare some optically active complexes and differentiate between them.	Dichlorobis(ethylenediamine) Cobalt(III) chloride complexes.			
	Select the suitable physical and chemical methods to analyze and distinguish between and characterize the synthesized complexes and inorganic compounds.	λ_{max} from UV-Visible spectrophotometer			
Fields					
Skills					
Coordinator (Name and Rank) : Mousa Al-Noaimi					
Signature and stamp :					
Date:8-11-2025	\ \				