Course Description Form

1. Course Name:
ANALYTICAL Chemistry
4. Course Code:
ANCH107
7. Semester / Year:
Spring semester 2025
10. Description Preparation Date:
13.
1/2/2025
16.Available Attendance Forms:
Attendance+online
19.Number of Credit Hours (Total) / Number of Units (Total)
75 h / 3.5 unit
22. Course administrator's name (mention all, if more than one name)
Name: ABDUSSAMED MOHAMMED ALI Email:abdmas74@uomosul.edu.iq Name: Farah Sameer salh Email: farhsameer@uomosul.edu.iq ALAA TAHA AZEEZ Email:alaa.taha@uomosul.edu.iq
25. Course Objectives

Course Objectives **Enabling students to know the principles of devices** Identify the characteristics of the devices Accurately Finding the best methods for analysis Finding the appropriate and quick Method for analysis Enable the student to perform calculation To find concentrate the analyzed Materials and compare them with Standard methods	

Finding alternatives if the devices used Are not available	

28. Teaching and Learning Strategies

Strategy	
Applying modern strategies for Education Providing learners with many different skills and knowledge increase students ability to learn using effective modern strategies that help .Assigning group work to reveal .Leadership skills Assigning tasks and reporting For each experiment	

31. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2h 3h	A2The student gets to know What is meant by b Chemistry Analytical /practical A2The student blames him On the app Measures related to the concept Ways and means To use devices	Introduction to chemistry Analytical Practical /guidelines About working in the laboratory	Lectures And Means Audio And Reports And other method	Disucussions
2	2h 3h	B6The student masters methods Expression Abou t focus and preparation Solutions Practical /b6 masters the laws used To prepare solutions	Ways of expression About focus and preparation Solutions Practical/laws used To prepare solutions Mathematical examples	**L**ectures And Means Audio And Reports And other method	Exams Reports Disucussions
3	2h 3h	A3 Proficient in solvingmathematical examples	And an introduction to Analytical chemistry Practical preparation	Lectures And Means	Exams Reports Disucussions

		Practical preparation Solutions Practical B3 proficien solving examples Sports	Solutions Practical/mathematical examples Practical preparation Solutions	Audio And Reports And other method	Kuzat
4	2h 3h	A2The student gets to know Break-even adjustments and related matters With it Practical C :The student is familia with work methods For equal settlements	Break-even adjustments Practical Introduction to working methods	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions
5	2h 3h	B6:The student knows th most important things For applications Practical B3:The student carries out a practical applicati To prepare standard acid	Break-even adjustments Applications on Break-even adjustments Practical acid preparation experiment standard	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions
6	2h 3h	A2:LThe student gets to know voltametry and electric study Practical B3: 1The practical application carries out a preparation experiment Standard base	voltametry and electric study Practical/preparation experience Standard base	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions
7	2h 3h	A2:The student gets to know Analysis of complex formation Practical B3: A practical application carries out an estimation experiment Iron(II) with permangan	Complex formation studies Practical / iron estimation experiment with Potassium permanganate	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions
8	2h 3h	B6:The student gets to know Depositional facies Practical B3: Performs a practical application Iron estimation experiment With potassium	Depositional facies Practical / iron estimation experiment With potassium dichromate	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions

		dichromate				
9	2h 3h	A5:The student learns About the pologhrafic Practical A2: The student gets to know Testimonials Formation of complexes	The polografic PARTICAL / corrections Formation of complexes	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat	
10	2h 3h	A5: The student learns about analysis The mechanism theories that She came for him Practical C :A practical Application implements a calcium Determination experiment In chalk Using corrections Formation of complexes	Instrumental analysis and theories that She came for him Practical/experiment for calcium determination In chalk Using corrections Formation of complexes	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions t	
11	2h 3h	B4: The student learns about measurement methods chromatographic analysis Practical C :A practical Application implements an estimation experiment Total hardness o f water Using EDTA	Measurement methods in Color analysis Practical/ experience hardship assessment College water using EDTA	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions	
12	2h 3h	A2;He knows with appreciation Selected chemicals Practical B3: A practical application implements estimation experiment Chloride by Moore's method in salt the food	To estimate Selected chemicals Practical/experiment for chloride estimation Murphy's table salt method	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat	
13	2h 3h	A6:The student gets to know Atomic	Atomic absorption spectrometry Practical/	Lectures And Means	Exams Reports Disucussions	

		Absorption spectrometry Practical B3:A practical application implements estimation experiment Chloride by Moore's method in drinking water	assessment experience Chloride by Moore's method Drinking water	Audio And Reports And other method	
14	2h 3h	A2:The student is familiar with preparation methods Samples For chemical analysis Practical B3:A practical application implements an estimation experiment Chloride by Volhard's method salt	Sample preparation methods For chemical analysis Practical /assessment experience Chloride by the Volhard method In table salt	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions
15	2h 3h	B6:The student is proficient in solving open-ended questions Analytical chemistry Practical B6: The student masters various questions about Practical chemistry and its experiments	Open questions in Analytical chemistry practical/ Various questions about Practical chemistry and its experiments	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions

34. Course Evaluation

Relative weight%	class	Calendar appointment(week	Calendar methods
%13	practical6+theoretical7	Theoreticalweek15 Practical week1-15	Final report(experiments+practical)
%6	practical2+4theoretical	Week3	Short test1
%15	practical5+10theoretical	Week9	Midtermtheoretical+practicalexam
%6	practical2+4theoretical	Week12	Short test2
%20	20	Practical exam week	finalpracticaltest
%40	40	Theory exam week	Final theoretical test
%100	100		The total

35. Learning and Teaching Resources		
Required textbooks (curricular books, if any)	**Quantitative of inorganic chemistry by Vogel,1973.**	
Main references (sources)	الكيمياء العامة لطلبة كلية الزراعة والغابات ،تاليف د. سامي عبد علي ، د. سالم حامد ، د. معاذ عبد الله الحجار	
Recommended books and references (scientific journals, reports…)	أسس الكيمياء التحليلية د. ثابت الغبشة ، د. مؤيد قاسم العبايجي	
Electronic References, Websites	بعض المواقع العلمية الرصينة وخاصة للجامعات العراقية