

Course Description Form

1. Course Name:	
ANALYTICAL Chemistry	
3. Course Code:	
ANCH107	
5. Semester / Year:	
Spring semester 2023	
7. Description Preparation Date:	
9.	
1-2-2024	
11. Available Attendance Forms:	
attendance	
13. Number of Credit Hours (Total) / Number of Units (Total)	
75h /3.5 unit	
15. Course administrator's name (mention all, if more than one name)	
Name: Farah Sameer salh Email: farhsameer@uomosul.edu.iq ALAA TAHA AZEEZ Email: alaa.taha@uomosul.edu.iq	
17. 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	



19. Teaching and Learning Strategies

Strategy

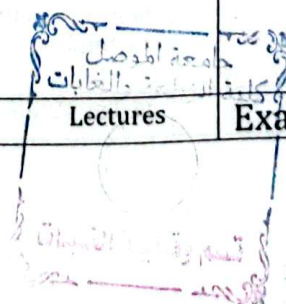
Applying modern strategies for Education
 Providing learners with many different skills and knowledge increase students ability to learn using effective modern strategies that help
 .Assigning group work to reveal Leadership skills
 Assigning tasks and reporting For each experiment

21. 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	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions
3	2h 3h	a3 Proficient in solvingmathematical examples Practical preparation Solutions Practical	And an introduction to Analytical chemistry Practical preparation Solutions Practical/mathematical examples	Lectures And Means Audio And Reports	Exams Reports Disucussions Kuzat



		b3 proficient solving examples Sports	Practical preparation Solutions	And other method	
4	2h 3h	a2: The student gets to know Break-even adjustments and related matters With it Practical c: The student is familiar 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 Disussions
5	2h 3h	b6: The student knows the most important things For applications Practical b3: The student carries out a practical application 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 Disussions
6	2h 3h	a2: The student gets to know Redox modifications Practical b3: 1 The practical application carries out a preparation experiment Standard base	Oxidation erosion And shorthand Practical/preparation experience Standard base	Lectures And Means Audio And Reports And other method	Exams Reports Disussions
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 permanganate	Complex formation studies Practical / iron estimation experiment with Potassium permanganate	Lectures And Means Audio And Reports And other method	Exams Reports Disussions
8	2h 3h	b6: The student gets to know Depositional facies Practical b3: Performs a practical application Iron estimation experiment With potassium dichromate	Depositional facies Practical / iron estimation experiment With potassium dichromate	Lectures And Means Audio And Reports And other method	Exams Reports Disussions
9	2h	a5: The student learns	Weight analysis	Lectures	Exams



	3h	about analysis Al-Wazani And the differences with Depositional delamination Practical a2: The student gets to know Testimonials Formation of complexes	And the differences with Depositional delamination PARTICAL / corrections Formation of complexes	And Means Audio And Reports And other method	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 of 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	a2He 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	a6:The student gets to	Atomic absorption	Lectures	Exams





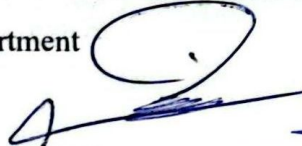
	3h	know Atomic Absorption spectrometry Practical b3:A practical application implements estimation experiment Chloride by Moore's method in drinking water	spectrometry Practical/ assessment experience Chloride by Moore's method Drinking water	And Means Audio And Reports And other method	Reports Disucussions
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

23. 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

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Quantitative of inorganic chemistry by Vogel,1973..
Main references (sources)	General chemistry for students of the College of Agriculture and Forestry Written by Dr. Sami Abdel Ali, Dr. Salem Hamed, Dr. Moaz Abdullah
Recommended books and references (scientific journals, reports...)	Foundations of analytical chemistry Dr.. Thabet Al-Ghabsha, Dr. Muayad Qasim Al-Abayji
Electronic References, Websites	Some solid scientific websites, especially for Iraqi universities

Theoretical subject teacher Farah Sameer salh 	practical subject teacher MRS.ALAA TAHA AZEEZ 
Head of the department 	Chairman of the scientific committee 