

Course Description Form

1. Course Name:	
ANALYTICAL Chemistry	
2. Course Code:	
ANCH107	
3. Semester / Year:	
Spring semester 2024	
4. Description Preparation Date:	
1-2-2024	
5. Available Attendance Forms:	
attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theoretical 3 hours practical /3.5 unit	
7. Course administrator's name (mention all, if more than one name)	
Name: ABDUSSAMED MOHAMMED ALI Email: abomas74@uomosul.edu.iq ALAA TAHA AZEEZ Email: alaa.taha@uomosul.edu.iq	
8. Course Objectives	
<p>Course Objectives</p> <p>Enabling students to know the principles of devices</p> <p>Identify the characteristics of the devices accurately</p> <p>Finding the best methods for analysis</p> <p>Finding the appropriate and quick method for analysis</p> <p>Enable the student to perform calculation</p> <p>To find concentrate the analyzed materials and compare them with standard methods</p> <p>Finding alternatives if the devices used are not available</p>	<ul style="list-style-type: none"> • Enabling students to know • The equipment in • Laboratories • Enabling the student • To conduct practical • Experiments enabling the • Student to use glassware • And knowing chemicals..... • •
9. 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

1. Assigning group work to reveal
 2. Leadership skills
 3. Assigning tasks and reporting
- For each experiment

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2h 3h	A1The student gets to know What is meant by b Chemistry Analytical /practical B6The 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	Exams Reports Disucussions Kuzat
2	2h 3h	B1The student masters methods Expression About t focus and preparation Solutions Practical /b7 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 Kuzat
3	2h 3h	B2Proficient in solving mathematical examples Practical preparation Solutions Practical /b8proficien solving examples Sports	And an introduction to Analytical chemistry Practical preparation Solutions Practical/mathematical examples Practical preparation Solutions	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions Kuzat
4	2h 3h	A2The student gets to know Break-even adjustments and related matters	Break-even adjustments Practical Introduction to working methods	Lectures And Means Audio And	Exams Reports Disucussions kuzat

		With it Practical B9The student is familiar with work methods For equal settlements		Reports And other method	
5	2h 3h	A3The student knows the most important things For applications Practical B10The 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 Discussions kuzat
6	2h 3h	A4The student gets to know Redox modifications Practical B11The 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 Discussions kuzat
7	2h 3h	A5The student gets to know Analysis of complex formation Practical B12A 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 Discussions kuzat
8	2h 3h	A6The student gets to know Depositional facies Practical B13Performs 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 Discussions kuzat
9	2h 3h	A7The student learns about analysis Al-Wazani And the differences with Depositional delamination Practical A11 The student gets to know Testimonials	Weight analysis And the differences with Depositional delamination PARTIAL / corrections Formation of complexes	Lectures And Means Audio And Reports And other method	Exams Reports Discussions kuzat

		Formation of complexes			
10	2h 3h	A8The student learns about analysis The mechanism theories that She came for him Practical B14A 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 kuzat
11	2h 3h	A9The student learns about measurement methods chromatographic analysis Practical B15A 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 kuzat
12	2h 3h	B3He knows with appreciation Selected chemicals Practical B16A 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	A10The student gets to know Atomic Absorption spectrometry Practical B17A practical application implements estimation experiment Chloride by Moore's method in	Atomic absorption spectrometry Practical/ assessment experience Chloride by Moore's method Drinking water	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat

		drinking water			
14	2h 3h	B4The student is familiar with preparation methods Samples For chemical analysis Practical B18A 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 kuzat
15	2h 3h	B5The student is proficient in solving open-ended questions Analytical chemistry Practical B19The 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 kuzat


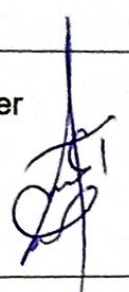
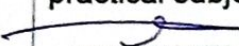

11. Course Evaluation

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

12. 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 ،تأليف د. سامي عبد علي ، د. سالم حامد ، د. معاذ عبد الله الحجار
Recommended books and references	أسس الكيمياء التحليلية

(scientific journals, reports...)	د. ثابت العبيشة ، د. مؤيد قاسم العبايجي
Electronic References, Websites	بعض المواقع العلمية الرصينة وخاصة للجامعات العراقية

<p>Theoretical subject teacher</p> <p>Dr.Abdisamad MOHAMMEDALI</p>  	<p>practical subject teacher</p> <p>MRS.ALAHA TAHA AZEEZ</p> 
<p>Head of the department of soil scientific</p> <p>Dr.Ammar Younis Kashmoula</p> 	<p>Chairman of the scientific committee</p> <p>Dr.Abdul Qader Abash sbak</p> 