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 thertical 3 hours partical /3.5 unit
7. Course administrator's name (mention all, if more than one name)
Name: ABDUSSAMED MOHAMMED ALI Email:abdmas74@uomosul.edu.iq ALAA TAHA AZEEZ Email:alaa.taha@uomosul.edu.iq
8. 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	• 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 Abou 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 solvingmathematical 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 familia with work methods For equal settlements		**Reports And other method**	
5	2h 3h	A3The student knows th most important things For applications Practical B10The 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 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 Disucussions 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 permangar	**Complex formation studies Practical / iron estimation experiment with Potassium permanganate**	**Lectures And Means Audio And Reports And other method**	Exams Reports Disucussions 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 Disucussions 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 PARTICAL / corrections Formation of complexes**	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions 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 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 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 ،تاليف د. سامي عبد علي ، د. سالم حامد ، د. معاذ عبد الله الحجار
Recommended books and references	أسس الكيمياء التحليلية

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

Theoretical subject teacher **Dr.Abdisamad MOHAMMEDALI**	practical subject teacher **MRS.ALAA TAHA AZEEZ**
Head of the department of soil scientific Dr.Ammar Younis Kashmoula	Chairman of the scientific committee Dr.Abdul Qader Abash sbak

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