

Course Description Form

1. Course Name:	
Chemistry	
2. Course Code:	
CHEM106	
3. Semester / Year:	
Autumn / 2023	
4. Description Preparation Date:	
1-2-2024	
5. Available Attendance Forms:	
present	
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)	
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8. Course Objectives	
<p>1. scientific and theoretical knowledge to enable students to conduct chemical analyzes in the applied field</p> <p>2. Teach students the possibility of separating elements according to chemical properties</p> <p>3. Enriching students with the scientific method of thinking and deduction, as well as developing their applied abilities by solving problems related to soil and water analysis and in the field of developing and developing forests.</p> <p>4. Conducting practical experiments to separate the elements and how to</p>	<p>. Enable the student to identify elements and their sums</p> <p>2. The possibility of separating these elements from their groups</p> <p>3. Transferring the student to the practical, applied side</p>

divide them, with the possibility of benefiting from them in the possibility of creating new forests	
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9. Teaching and Learning Strategies

student to the practical side 2. Providing the student with practical skills and preparing him to move from the theoretical to the practical	strategies in education 2. Providing learners with many different skills and knowledge 3. Increase the student's ability to learn 4. Diversity in methods and implementation of the curriculum in the teaching process, taking into account individual circumstances and learners' capabilities
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2h 3h	A1: The student learns about the concept of chemistry, its types, and its importance in different areas of life Practical A7: He is familiar with the methods of separating the elements of the first group	Introduction in chemistry Practical General guiding for elements precipitation	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
2	2h 3h	. B1: The student is familiar with the most important characteristics and properties of water and the importance of these properties for plants Practical B6: He is familiar with the methods of separating the elements of the first group	Water and life Separation of elements in group one(theoretical)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
3	2h 3h	A2: The student is introduced to what a solution is and how to	Classification of solution Group one	Lectures, audio media, reports, pictures, and	Discussing answers to questions during the lecture,

		distinguish between its different types, giving examples. Practical B7: Try a practical application of the unknown of the first group	(practical And unknown+vist	conducting scientific experiments	interaction during the lesson, giving homework, and exams
4	2h 3h	B2: The student is familiar with the different types of solutions and how to prepare these types Practical B8: The student masters the separation of the elements of the second group A	Preparation of colloidal solution Separation of elements in group two (theoretical)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
5	2h 3h	B3: The student masters the laws used to find concentrations of different solutions, and find percentages of solutions Practical B9: A practical application is carried out for the unknown of the second group A	Analytical chemistry part A partical Separation of elements in group two (practical)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
6	2h 3h	B4: The student will be able to solve mathematical and mathematical examples related to solution concentrations Practical B10: The student masters the separation of the elements of the second group B	Concentration expression methods part Separation of elements in group two B)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
7	2h 3h	A3: The student is introduced to the types of volumetric analysis within analytical chemistr Practical B4: A practical application is carried out for	Analytical chemistry part A partical Separation of elements in group two B (practical)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams

		the unknown of the second group B			
8	2h 3h	E1: The student identifies the factors affecting solubility and the possibility of benefiting from these factors Practical B12: The student masters the separation of the elements of the third group	Solubility part A PARTICAL Separation of elements in group Three (theoretical)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
9	2h 3h	E2: Defines the concept of solubility and what is related to it Practical B13: A practical application is carried out for the unknown of the third group	Solubity part B Separation of elements in group Three (practical) Application on unknown	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
10	2h 3h	B5: The student is proficient in solving mathematical problems Practical B14: Performs a practical application of a general unknown	Solubility part C PARTICAL Separation of elements in group FOUR (theoretical)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
11	2h 3h	A5: The student learns what is meant by hydrolysis of salts and how to benefit from it Practical A8: The student masters the separation of the elements of the fourth group	Hydrolysis of salts P Separation of elements in group four unknown	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
12	2h 3h	B6: The student is familiar with the states of matter and the factors affecting them Practical B19:	States of matter P Separation of elements in group five (theoretical)	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams

		The student carries out a practical application of the unknowns of the fourth group			
13	2h 3h	E3: The student identifies pollution and the factors affecting it Practical A9: The student is familiar with the separation of the elements of the fifth group	pollution P Separation of elements in group five unknown	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
14	2h 3h	A6: The student knows about introduction to nuclear chemistry and how much it can benefit from it Practical B20: Experiments with a practical application of the unknown of the fifth group	Theory in Nuclear chemistry P Detection of anion	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams
15	2h 3h	E4: The student identifies the importance of nuclear chemistry Practical B21: The student is familiar with the separation of the elements of the sixth group	Explain the importance of nuclear chemistry Sixth group P Unknown	Lectures, audio media, reports, pictures, and conducting scientific experiments	Discussing answers to questions during the lecture, interaction during the lesson, giving homework, and exams

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical +	6%

			2 practical		
5	Final practical test	practical exams week	20	20%	
6	Final theoretical exam	theoretical exams week	40	40%	
			100	100	

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

Instructor of theoritical part

Dr. Abdussamed mohammed ali saeed

Instructor of practical part

Farah samir saleh

Alaa taha azeez

Chairman of the scientific committee

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