Academic Program Description

University Name: ..... Anbar

Faculty/Institute: ..... Education for women.....

Scientific Department: ..... Chemistry.

Academic or Professional Program Name: . Bachelor of Chemistry .....

Final Certificate Name: .... Bachelor of Chemistry .....

Academic System: ..... quarterly...

Description Preparation Date: 27/3/2024

File Completion Date: 27/3/2024

Signature:

Head of Department Name:

Asst. Prof. Dr. Riyad Muhammad Jihad

Date:

Signature:

Scientific Associate Name:

Asst. Prof. Dr. Firas F. Ali

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Prof.Dr. Ahmed Abdel Sattar Shailal

Date:

Signature:

جامعة الانبار/كلية التربية للبنات
University Of Anbar
Education College For Women
مكتب العميد
DEAN OFFICE

Authentication of the Dean

Prof.Dr.Nasra H. Jadwa

Date: 1/4/2024

Signature

Academic Program Description

University Name: …… **Anbar**

Faculty/Institute: …… **Education for women**……

Scientific Department: …… **Chemistry**..

Academic or Professional Program Name: . **Bachelor of Chemistry** ……

Final Certificate Name: …. **Bachelor of Chemistry** ……

Academic System: …… **quarterly…**

Description Preparation Date: **27/3/2024**

File Completion Date: **27/3/2024**

Signature:

Head of Department Name:

Asst. Prof. Dr. Riyad Muhammad Jihad

Date:

Signature:

Scientific Associate Name:

Asst. Prof. Dr. Firas F. Ali

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Prof.Dr. Ahmed Abdel Sattar Shailal

Date:

Signature:

Authentication of the Dean
Prof.Dr.Nasra H. Jadwa

Date:
Signature

Approval of the Dean

1. **Program Vision**
The College of Education for Women (Department of Chemistry) seeks to prepare female graduates to teach in the Ministry of Education to work in (middle, secondary, and middle school) and to benefit from specialization in the practical and applied field.

2. **Program Mission**
This academic program description provides a necessary summary of the most important characteristics of the program and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the available opportunities. It is accompanied by a description of each course within the program

3. **Program Objectives**
1. Providing female graduates with practical skills for teaching in accordance with scientific developments in methodological vocabulary and modern teaching methods for teaching organic chemistry and all branches of chemistry. 2. Preparing graduates with high theoretical and practical skills to meet the educational needs in schools and serve the community in the field of teaching. 3. Preparing female graduates to effectively participate in the progress of the country and achieve social benefits for society.

4. **Program Accreditation**

5. Other external influences

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	22	22	15%	Basic course
College Requirements	18	18	12%	
Department Requirements	136	105	73%	
Summer Training				
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

The first stage

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
2023- 2024 / quarterly	EWC 1101	Arabic	2	
2023- 2024 / quarterly	EWC 1102	English	2	
2023- 2024 / quarterly	EWC 2101	Educational Psychology	2	
2023- 2024 / quarterly	EWC 2102	human rights	2	
2023- 2024 / quarterly	EWC 2103	Foundations of education	2	
2023- 2024 / quarterly	EWC 3101	Life sciences	2	2
2023- 2024 / quarterly	EWC 3102	Computers – 1	2	2
2023- 2024 / quarterly	EWC 3103	Mathematics - 1	2	
2023- 2024 / quarterly	EWC 3104	Analytical – 1	2	2
2023- 2024 / quarterly	EWC 3105	Analytical – 2	2	2
2023- 2024 / quarterly	EWC 3106	Organic Chemistry - 1	2	2
2023- 2024 / quarterly	EWC 3107	Organic Chemistry - 2	2	2

2023- 2024 / quarterly	EWC 3108	Inorganic Chemistry - 1	2	
2023- 2024 / quarterly	EWC 3109	Inorganic Chemistry - 2	2	

The second phase

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
2023- 2024 / quarterly	EWC 2201	Developmental psychology	2	
2023- 2024 / quarterly	EWC 2202	Freedoms	2	
2023- 2024 / quarterly	EWC 2203	Educational administration	2	
2023- 2024 / quarterly	EWC 3201	Mathematics - 2	2	
2023- 2024 / quarterly	EWC 3202	physics	2	
2023- 2024 / quarterly	EWC 3203	Research methodology	2	
2023- 2024 / quarterly	EWC 3204	Computers – 2	2	2
2023- 2024 / quarterly	EWC 3205	Organic Chemistry – 3	4	2
2023- 2024 / quarterly	EWC 3206	Inorganic chemistry – 3	4	2
2023- 2024 / quarterly	EWC 3207	Physical Chemistry - 1	4	2
2023- 2024 / quarterly	EWC 3208	Analytical Chemistry – 3	4	2

third level

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
2023- 2024 / quarterly	EWC 2301	Counseling and mental health	2	
2023- 2024 / quarterly	EWC 2301	Curricula and teaching methods	2	
2023- 2024 / quarterly	EWC 3301	pollution	2	
2023- 2024 / quarterly	EWC 3302	Organic Chemistry – 4	2	2
2023- 2024 / quarterly	EWC 3303	Organic Chemistry - 5	2	2
2023- 2024 / quarterly	EWC 3304	Industrial Chemistry - 1	2	2
2023- 2024 / quarterly	EWC 3305	Physical Chemistry – 2	2	2
2023- 2024 / quarterly	EWC 3306	Physical Chemistry – 3	2	2
2023- 2024 / quarterly	EWC 3307	Inorganic Chemistry – 4	4	2
2023- 2024 / quarterly	EWC 3308	Biochemistry - 1	4	

The fourth stage

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
2023- 2024 / quarterly	EWC 2401	Measurement and evaluation	2	
2023- 2024 / quarterly	EWC 2402	School applications	2	

2023- 2024 / quarterly	EWC 3401	my choice	2	
2023- 2024 / quarterly	EWC 3402	research project	2	
2023- 2024 / quarterly	EWC 3403	Biochemistry – 2	2	2
2023- 2024 / quarterly	EWC 3404	Biochemistry - 3	2	2
2023- 2024 / quarterly	EWC 3405	Quantum and spectra	2	
2023- 2024 / quarterly	EWC 3406	Organic diagnosis	2	2
2023- 2024 / quarterly	EWC 3407	Automated analysis	2	2
2023- 2024 / quarterly	EWC 3408	Industrial - 2	4	

8. Expected learning outcomes of the program

Knowledge	
Lear The student will have the ability to know and understand the principles, theories and basics of chemistry. The student will have the ability to understand modern and advanced scientific topics in the field of chemistry. The student must be able to understand chemistry and the equations related to its study. The student will be able to understand the basics of the operation of laboratory equipment used in chemical analysisning outcomes 1	Monthly and quarterly written exams. Rapid exams (Quizzes). Homework. Writing scientific reports and research
Skills	
Description and analysis of chemical applications –Analyze problems related to chemistry and discuss possible solutions.	
Analyze problems related to pollution and discuss possible solutions to reduce sources of pollution	

Ethics	
Learning outcomes 4Developing students' abilities to prepare chemical compounds and avoid their dangers	
Developing students' ability to identify sources of pollution and how to reduce pollution	

9. Teaching and Learning Strategies

1- Explaining the scientific material to students in detail.

2- Female students' participation in solving pollution problems

3- Discussion and dialogue about vocabulary related to the subject of chemistry

10. Evaluation methods

Daily, weekly, monthly exams and the end of the year exam.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Teacher/Doctor	chemistry	Organic			permanent	
Assistant Professor Dr	chemistry	Analytical			permanent	
Assistant Professor Dr	chemistry	Inorganic			permanent	
Assistant Professor Dr	chemistry	Physical			permanent	
Teacher	chemistry	Analytical			permanent	

Teacher	chemistry	Inorganic			permanent	
Teacher/Doctor	chemistry	Organic			permanent	
Teacher/Doctor	Computers				permanent	
Assistant Professor Dr	chemistry	Quantum and spectra			permanent	
Assistant Professor Dr	chemistry	Automated analysis			permanent	
Doctor teacher	chemistry	Biochemistry			permanent	
assistant teacher	chemistry				permanent	
Doctor teacher	chemistry	Organic diagnosis			permanent	
Teacher	chemistry	pollution			permanent	
Doctor teacher	Physical				permanent	
Teacher	chemistry	Biochemistry			permanent	
Doctor teacher	Mathematics				permanent	

Professional Development

Mentoring new faculty members

Providing advice and instructions to new recruits and guiding them to clarify some concepts related to teaching and how to deal with female students, as well as supporting them in solving some of the problems they face while working within the college and the department.

Professional development of faculty members

Conducting workshops, courses and seminars that keep pace with the progress of the teaching process, curriculum development, methods of preparing materials, and how to use modern equipment that is useful in chemical laboratories.

12. Acceptance Criterion

• Approving admission conditions for students in accordance with the regulations of the Ministry of Higher Education and Scientific Research (central admission)

• Personal interview for the department. • High school average • Must be fit for medical examination. • The college's absorptive capacity.

13. **The most important sources of information about the program**
• Studies and questionnaires. • Market needs. • Local trends of the governorate. • Directions of the Ministry of National Education and Scientific Research

14. Program Development Plan

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First stage/ semester		Educational Psychology			√				√						
		human rights			√	√			√						
		Arabic			√	√			√						
		English			√				√						
		Foundations of education		√				√				√	√		
		Biology sciences		√		√				√	√		√		
		Computers – 1		√	√			√				√	√		
		Mathematics - 1		√	√			√				√	√		

		Analytical – 1	√				√								
		Analytical – 2	√				√								
		Organic Chem – 1	√				√	√				√			
		Organic Chem – 2	√	√			√	√			√	√			
		Inorganic Chemistry - 1	√				√								
		Inorganic Chemistry - 2	√				√								
The second stage/ semester		**Developmental psychology**		√	√			√	√			√			
		Freedoms		√				√	√			√	√		
		Educational administration		√				√				√	√		
		Mathematics - 2		√				√				√	√		
		physics		√				√				√	√		
		Research methodology		√	√			√	√	√		√			

		Computers – 2		√	√			√	√	√		√	√	√	
		Organic Chemistry – 3		√	√			√	√			√	√		
		Inorganic Chemistry – 3		√	√			√	√			√	√		
		Physics - 1		√	√			√	√	√		√			
The third stage/ semester		**pollution**		√	√			√	√			√	√		
		Organic Chemistry – 4		√	√				√				√		
		Organic Chemistry - 5		√		√			√	√			√		
		Industrial - 1				√			√	√			√		
		Physics – 2		√	√				√	√			√		
		Physics – 3		√	√				√						
		Inorganic Chemistry – 4				√			√	√			√		
		Biochemistry - 1		√		√	√		√	√			√		

		Counseling and mental health		√	√			√	√		√				
The fourth stage		**Measurement and evaluation**		√				√				√			
		School applications		√	√			√				√	√		
		my choice						√							
		research project		√	√			√	√			√	√		
		Biochemistry – 2													
		Biochemistry - 3		√				√				√			
		Quantum and spectra		√				√				√			
		Organic diagnosis		√	√			√	√			√	√		
		Automated analysis		√	√			√	√			√			
		Industrial - 2		√	√			√	√			√			

Course Description

1. Course Name:
organic chemistry The first stage
2. Course Code:
EWC 3106
3. Semester / Year:
2024-2023
4. Description Preparation Date:
3/27/2024 First semester
5. Available Attendance Forms:
My presence
6. Number of Credit Hours (Total) / Number of Units (Total)
3.5/64
7. Course administrator's name (mention all, if more than one name)
Name: Nibras Yousif Abdulla Email: nib19s3017@uoanbar.edu.iq
8. Course Objectives

Course Objectives	**It aims to know chemical compounds, their structural formulas, and what is related to their properties and preparation**

9. Teaching and Learning Strategies

Strategy	Lectures

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to organic compounds and their types		Exam + activity	
2	2	Fission and its types (homogeneous and heterogeneous)		Exam activity	
3	2	Chemical bonds Types of bonds (covalent, ionic, a hydrogen)		Exam activity	
4	2	Alkanes and thei names		Exam activity	
5	2	Methods of preparing alkanes		Exam activity	
6	2	Alkanes reactions		Exam activity	
7	2	Cycloalkanes, their names, and methods of preparing them		Exam activity	
8	2	First month exam		Exam	
9	2	Alkenes, their names, types, Methods of preparing it		Exam activity	
10	2	Second month ex		Exam +	
11. Course Evaluation					
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,...etc.					
12. Learning and Teaching Resources					

Required textbooks (curricular books, if any)	
Main references (source)	
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

1. Course Name:	
Organic chemistry/first stage	
2. Course Code:	
EWC 3107	
3. Semester / Year:	
2024-2023	
4. Description Preparation Date:	
3/27/2024 Second semester	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
3.5/64	
7. Course administrator's name (mention all, if more than one name)	
Name: Bushra Turki Mahdi Email: edw.boshra_chemistry@uoanbar.edu.iq	
8. Course Objectives	
Teaching and Learning Strategies	**Knowing dienes and distinguishing between their types, understanding alkynes and their types, methods of preparing them and their reactions, knowing aromatic compounds, their types and naming.**
Lectures	
9.	
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	daienes, their types, and their names		Exam + activity	
2	2	Diene reactions		Exam + activity	
3	2	Alkynes, naming them		Exam + activity	
4	2	Methods of preparing it		Exam + activity	
5	2	Alkyne reactions		Exam + activity	
6	2	Addition of a halogen to alkynes Adding water to alkynes		Exam + activity	
7	2	Monthly exam		Exam	
8	2	Adding borane		Exam	
9	2	Acidic property of alkynes		Exam + activity	
10	2	Aromatic compoun		Exam + activity	
11	2	Mono-compensated gasoline		Exam + activity	
12	2	double compensati gasoline, Multi-compensated gasoline		Exam + activity	
13	2	Monthly exam		Exam	

11. Course Evaluation

Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,...etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (source)	Organic Chemistry / Mors

Recommended books and references (scientific journals, reports…)	**Some published scientific articles and research**
Electronic references, websites.	

Course Description

1. Course Name:
Inorganic chemistry/ first stage
2. Course Code:
EWC 3108
3. Semester / Year:
2024-2023
4. Description Preparation Date:
3/27/2024 First semester
5. Available Attendance Forms:
My presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2/32
7. Course administrator's name (mention all, if more than one name)
Name: Dena Hameed Zidan Email: dina.hameed@uoanbar.edu.iq
8. Course Objectives

Course Objectives	**Introducing the student at this stage to basic inorganic chemistry. The student knows the structure of molecules, molecular orbitals, and radiochemistry**

9. Teaching and Learning Strategies	
Strategy	Lectures

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Electromagnetic radiation		Exam + activity	
2	2	Atom structure		Exam activity	
3	2	Quantum numbers		Exam + activity	
4	2	lustrative examples of quantum numbers		Exam activity	
5	2	Black body radiation		Exam + activity	
6	2	First month exam		Exam + activity	
7	2	Sequences		Exam	
8	2	Lyman series		Exam	
9	2	Sequential Passion		Exam + activity	
10	2	`Bracket sequencer`		Exam + activity	
11	2	`iPhone serializer`		Exam activity	
12	2	`review`		Exam activity	
13	2	Second month exa		Exam	

11. Course Evaluation

Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,...etc.

12. Learning and Teaching Resources	
Required textbooks (curricular bool if any)	Modern inorganic chemistry, part one, Dr. Basem Muhammad Al-Saadi
Main references (source)	Nuclear and radiochemistry Dr. Anis Al-Rawi Radiochemistry Dr. Munther Al-Jana B
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

1. Course Name:	
Curricula and teaching methods/ third Stage	
2. Course Code:	
E EWC 3301	
3. Semester / Year:	
2024-2023	
4. Description Preparation Date:	
2023 /9/16 second semester	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2/64	
7. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Walid Ahmed Abd Email:	
8. Course Objectives	
Course Objectives	• This subject covers the curriculum and its development • Get to know the most important thing that distinguishes between the ancient and modern approaches • Familiarity with some of the teaching methods used by the teacher.
9. Teaching and Learning Strategies	
Strategy	Cognitive objectives: - The student should know the methods and types of teaching The student explains the importance of the teaching meth followed. The student expresses her opinion about the tes Skills objectives: - The student should practice formulatin objectives - The student should discuss the advantages of tests

	Emotional goals: - Developing the student's ability to wor logical thinking - making the student enthusiastic abo taking on the lessons.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Concepts of t terms metho style, and teachi strategy		Theoretical questions a discussions oral exams	
2	1	Classifications of teaching methods		Theoretical questions a discussions oral exams	
3	1	The old curriculum The modern approach and the difference between them		Theoretical questions a discussions oral exams	
4	1	Specifications of a good strategy in teaching		Theoretical questions a discussions oral exams	
5	1	Types of teaching strategies		Theoretical questions a discussions oral exams	
6	1	Effective teaching skills		Theoretical questions a discussions oral exams	

7	1	The foundations on which effective teaching is based		Theoretical questions a discussions oral exams	
8	1	General rules for determining teaching objectives		Theoretical questions a discussions oral exams	
9	1	Specifications of a good strategy in teaching		Theoretical questions a discussions oral exams	
10		Classifications of teaching methods		Theoretical questions a discussions oral exams	

11. Course Evaluation

Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,...etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Author: Abdullah Ali Al-Hadi, Curric and Teaching Methods, 2016
Main references (source)	Dr . Mahmoud Al-Rubaie..Teach methods and education methods 20
Recommended books and references (scientific journals, reports...)	
Electronic references, websites.	

Course Description

1. Course Name:	
Inorganic chemistry/first stage	
2. Course Code:	
EWC 3108	
3. Semester / Year:	
second semester / 2024-2023	
4. Description Preparation Date:	
3/27/2024 First semester	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2/32	
7. Course administrator's name (mention all, if more than one name)	
Name: Dena Hameed Zidan Email: dina.hameed@uoanbar.edu.iq	
8. Course Objectives	
Course Objectives	In this stage, the student is introduced to the periodic table, the electronic arrangement of atoms, periodic properties, shielding, and types of chemical bonds.
9. Teaching and Learning Strategies	
Strategy	Lectures
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Modern periodic table		Exam + activity	
2	2	Electronic arrangement of atoms		Exam activity	
3	2	Periodic properties		Exam + activity	
4	2	Blocking		Exam activity	
5	2	Atomic radius		Exam + activity	
6	2	Ion potential		Exam + activity	
7	2	Monthly exam		Exam	
8	2	Electronic familiarity		Exam	
9	2	Electronegativity		Exam + activity	
10	2	Chemical bonds chemical reaction		Exam + activity	
11	2	Types of chemical bonds		Exam activity	
12	2	Ionic bond, bond Covalent		Exam activity	
13	2	Second month exa		Exam	

11. Course Evaluation
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,...etc.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Modern inorganic chemistry, part one, Dr. Basem Muhammad Al-Saadi
Main references (source)	Nuclear and radiochemistry Anis Al-Rawi Radiochemistry Dr. Munther Jana B
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

1. Course Name:	
Analytical chemistry/first stage	
2. Course Code:	
EWC 3104	
3. Semester / Year:	
2024- 2023 First semester	
4. Description Preparation Date:	
3/27/2024	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
3.5/64	
7. Course administrator's name (mention all, if more than one name)	
Name : riyad Mohamed jihad Emai: riyadhjihad@gmail.comar.edu.iq	
8. Course Objectives	
Course Objectives	A basic course for female students in the Chemistry Department that aims to increase female students' knowledge of analytical chemistry, its branches, and the calculations necessary to prepare standard solutions.
9. Teaching and Learning Strategies	
Strategy	Lectures
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	The first chapter is an introduction to analytical chemistry		Exam + activity	
2	2	Chapter Two (Some Basic Concepts)		Exam activity	
3	2	Chapter Two (Some Basic Concepts)		Exam + activity	
4	2	review		Exam activity	
5	2	First month exam		Exam	
6	2	Chapter Three: Methods of expressing the concentration of solutions		Exam + activity	
7	2	Chapter Four: Methods of preparing solutions.		Exam activity	
8	2	And chemical calculations in titration reactions.		Exam + activity	
9	2	And chemical calculations in titration reactions.		Exam + activity	
10	2	Second month exam		Exam	

11. Course Evaluation
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Some published scientific articles and research
Main references (source)	
Recommended books and references (scientific journals, reports…)	Some published scientific articles and research
Electronic references, websites.	

Course Description

1. Course Name:	
Analytical chemistry/first stage	
2. Course Code:	
EWC 3104	
3. Semester / Year:	
second semester / 2024-2023	
4. Description Preparation Date:	
3/27/2024	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
3.5/64	
7. Course administrator's name (mention all, if more than one name)	
Name :iman Mohamed Khalaf Emai : iman.muhammed@uoanbar.edu.iq	
8. Course Objectives	
Course Objectives	A basic course for female students in the Chemistry Department that aims to increase female students' knowledge of analytical chemistry, its branches, and the calculations necessary to prepare standard solutions.
9. Teaching and Learning Strategies	
Strategy	Lectures

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Chapter Six (neutralization reactions).		Exam + activity	
2	2	Chapter Six (neutralization reactions).		Exam activity	
3	2	Chapter Seven: Acid and base titration curves		Exam + activity	
4	2	Chapter Seven: Acid and base titration curves		Exam activity	
5	2	Exam		Exam	
6	2	Chapter Seven: Acid and base titration curves		Exam + activity	
7	2	Chapter Eight: Neutralization titration curves for polyprotons		Exam activity	
8	2	Chapter Eight: Neutralization titration curves for polyprotons		Exam + activity	

9	2	Chapter Eight: Neutralization titration curves for polyprotons		Exam + activity	
10	2	Exam		Exam	

11. Course Evaluation
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Some published scientific articles and research
Main references (source)	
Recommended books and references (scientific journals, reports…)	Some published scientific articles and research

1. Course Name
Life sciences
2. Course Code
EWC 3101
3. : Semester / Year
quarterly
4. : Date this description was prepared
2024 - 4-10
5. : Available attendance forms
weekly
6. Number of study hours (total)\ number of units (total)
theoretical hours + 2 practical hours = (4 hours) per week 2 Number of units (3)
7. Name of the course administrator (if more than one name (mentioned
Name.M.M.l Ibtihal Mohammed Khalafmillimeter . Rana Salem : Email ibtehal.mohammed@uoanbar.edu.iq
8. Course objectives

• • identification Students on The importan of biology • In addition To study Branches of biology • And get to know on Attributes of life • Identify the stages of classification scien . • identification Students On the concept reproduction and growth • Learn about the concept of environment	**Objectives of t study subject**

9. Teaching and learning strategies

-1 -Explanation and clarification , 2 , Lecture meth -3 Student groups -4 Practical lessons in the laboratory and scientific tri Brainstorming -5 ,	**The strategy**

10. Course structure

Evalua on metho	Learning method	Name of the unit topic	Required learning outcomes	hours	the week

Theoretical tests And practical tests And reports	Explanation and presentation of the slide mode and lecture	Life sciences	introduction General on biology	4	1
Theoretical tests And practical tests And reports	Explanation and presentation of the slide mode and lecture	Life sciences	Attributes of life	4	2
Theoretical tests And practical tests And reports	Explanation and presentation of the slide mode and lecture	Life sciences	Classification of living things	4	3
Theoretical tests And practical tests And reports	Explanation and presentation of the slide mode and lecture	Life sciences	Classification systems	4	4
Theoretical tests	Explanation and presentation of the slide mode and lecture	Life sciences	Reproduction and growth	4	5

And practical tests And reports					
Theoretical tests And practical tests		General revival	First month exam	4	6
Theoretical tests And practical tests And reports	Explanation and presentation of the slide model and lecture	Life sciences	Plant hormones	4	7
Theoretical tests And practical tests And reports	Explanation and presentation of the slide model and lecture	Life sciences	Hormonal coordination	4	8
Theoretical tests And practical tests And reports	Explanation and presentation of the slide model and lecture	Life sciences	Development Theories o evolution	4	9

Theoretical tests And practical tests And reports	Explanation and presentation of the slide model and lecture	Life sciences	Ecology	4	10
Theoretical tests And practical tests And reports	Explanation and presentation of the slide model and lecture	Life sciences	Ecosystem components	4	11
the exams the theory And tests the operation		Life sciences	Second month exam	4	12
Theoretical tests And practical tests And reports	Explanation and presentation of the slide model and lecture	Life sciences	Biogeochemical cycles	4	13
Theoretical tests	Explanation and presentation of the slide	Life sciences	The food chain food web	4	14

And practical tests And reports	model and lecture				
Theoretical tests And practical tests And reports	Explanation and presentation of the slide model and lecture	Life sciences	Behavior of living things Plant behavior Animal behavior	4	15

11. Course evaluation

Distribution of the grade out of 100 according to the tasks assign to the student, such as daily preparation, daily, oral, monthly, writt .exams, reports , etc

Monthly exams 25 marks

Daily preparation, daily exams and reports 5 marks

Practical exam: 10 marks

Strive 40 degrees

Final exam (45 marks for theoretical exam + 15 marks for practic exam) = 60 marks

12. Learning and teaching resources

Diversity of living organisms the environment 2005 **Biology 1982**	**) Required prescribed boo (Methodology, if any**

Atlas of Biology 2019	Main references (sources)
Introduction to botany/ Murr Nabors **Developmental Biology / Lew Wolpert 2016**	**books Recommended supporti ,and references (scientific journa (... reports**
Use of electronic references a websites	**Electronic references, websites**

Course Description

1- Course Name:Foundation of education	
1- Course Name:Foundation of education	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) hala khdier sucker	
8- Course objectives:	
Objectives of the study subject:	• * tughatiy hadhih almadat almanahij aldirasiat watatawuraha * alnaerif ealaa ahim ma yumayiz bayn almanhaj alqadim walhadith * alalmam bibaed tarayiq altadris almutabaeat min qibal altadrisii
9. Teaching and learning strategies	
The strategy	af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat

	alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus

10- Course structure

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The First	One oclock	In the ninth paragraph	Meaning of education	Theoretical	Theoretical question and discussion
The Secor	One oclock	In the ninth paragraph	Types of education	Theoretical	Theoretical question and discussion
The Third	One oclock		The difference between education and learing	Theoretical	Theoretical question and discussion
The fourtl	One oclock	In the ninth paragraph	Monder historical foundation	Theoretical	Theoretical question and discussion
The fifth	One oclock		Education in ancient civilization	Theoretical	Theoretical question and discussion
The sixte	One oclock	In the ninth paragraph	Mesopotamian civilization	Theoretical	Theoretical question and discussion
The sever	One oclock		Greek education	Theoretical	Theoretical question

					and discussion
The eight	One oclock	In the ninth paragraph	Education in global civilization	Theoretical	Theoretical question and discussion
The ninte	One oclock	In the ninth paragraph	The world of educational thought	Theoretical	Theoretical question and discussion
The eleve	One oclock	In the ninth paragraph	Social foundation of educational	Theoretical	Theoretical question and discussion
The twelv	One oclock	In the ninth paragraph	Economic foundation education al	Theoretical	Theoretical question and discussion
The thirte		In the ninth paragraph	Scientific foundation education	Theoretical	Theoretical question and discussion
The fourteen	One oclock	In the ninth paragraph	National foundation education	Theoretical	Theoretical question and discussion
The fiftee	One oclock	In the ninth paragraph	Modern educational	Theoretical	Theoretical question and discussion

Course Description

1- Course Name: Develop ment psycology	
2- Course Code: : Develop ment psycology	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) hala kudier sucker	
8- Course objectives:	
Objectives of the study subject:	• * tughatiy hadhih almadat almanahij aldirasiat watatawuraha * alnaerif ealaa ahim ma yumayiz bayn almanhaj alqadim walhadith * alalmam bibaed tarayiq altadris almutabaeat min qibal altadrisii
9. Teaching and learning strategies	
The strategy	af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat

	alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus

10- Course structure

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The First	One oclock ck	In the ninth paragraph	I**ntroduction to Developmental Psychology**	Theoretical	Theoretical question and discussion
The Seco	One oclock ck	In the ninth paragraph	**Study Importance ofDevelopmental psychology**	Theoretical	Theoretical question and discussion
The Third	One oclock ck		**Growth and Maturity and Development**	Theoretical	Theoretical question and discussion
The fourt	One oclock ck	In the ninth paragraph	**The Effective Factors on the Development**	Theoretical	Theoretical question and discussion

The fifth	One oclock ck		**Important legacies**	Theoretical	Theoretical question and discussion
The sixte	One oclock ck	In the ninth paragraph	**Environment**	Theoretical	Theoretical question and discussion
The seventh	One oclock ck		**Food**	Theoretical	Theoretical question and discussion
The eight	One oclock ck	In the ninth paragraph	**Childhood**	Theoretical	Theoretical question and discussion
The ninte	One oclo ck	In the ninth paragraph	**Language growth**	Theoretical	Theoretical question and discussion
The ten		One oclock ck	In the ninth paragraph		Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion

Course Description

1- Course Name:Education administration	
2- Course Code: :Education administration	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) // hala kidder sucker	
8- Course objectives:	
Objectives of the study subject:	• * tughatiy hadhih almadat almanahij aldirasiat watatawuraha * alnaerif ealaa ahim ma yumayiz bayn almanhaj alqadim walhadith * alalmam bibaed tarayiq altadris almutabaeat min qibal altadrisii
9. Teaching and learning strategies	
The strategy	af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih

	wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus

10- Course structu

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The First	One oclock ck	In the ninth paragraph	Education administration	Theoretical	ical n and on
The Secor	One oclock ck	In the ninth paragraph	concept Education administration	Theoretical	Theoretical question an discussion
The Third	One oclock ck		leadership	Theoretical	Theoretical question an discussion
The fourtl	One oclock ck	In the ninth paragraph	theoretically leadership	Theoretical	Theoretical question an discussion
The fifth	One oclock ck		patterns Education administration	Theoretical	Theoretical question an discussion

The sixte	One oclock ck	In the ninth paragraph	classroom managemen	Theoretical	Theoretical question an discussion
The sevel h	One oclocl ck		the importance effective managemen	Theoretical	Theoretica question and discussion
The eight	One oclocl ck	In the ninth paragraph	The concept education supervision	Theoretical	Theoretica question and discussion
The ninte	One oclocl ck	In the ninth paragraph	Techniques The concept educationsupervi sion	Theoretical	Theoretica question and discussion
			Characteristics school		Theoretica question and discussion
					Theoretica question and discussion

Course Description

1- Course Name:Education guidance	
2- Course Code: :Education guidance and mental health	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) // hala kidder sucker	
8- Course objectives:	
Objectives of the study subject:	• * tughatiy hadhih almadat almanahij aldirasiat watatawuraha * alnaerif ealaa ahim ma yumayiz bayn almanhaj alqadim walhadith * alalmam bibaed tarayiq altadris almutabaeat min qibal altadrisii
9. Teaching and learning strategies	
The strategy	af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat

	alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus

10- Course structure

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The Firs	One oclock ck	In the ninth paragraph	Psychological counseling educational guidance	Theoretical	Theoretica l question and discussion
The Second	One oclock ck	In the ninth paragraph	definitions of educational guidance	Theoretical	Theoretica l question and discussion
The Thir	One oclock ck		the relationship of counseling with other sciences	Theoretical	Theoretica l question and discussion
The four	One oclock ck	In the ninth paragraph	Indicative methods	Theoretical	Theoretica l question and discussion
The fifth	One oclock ck		Justifications for educational guidance	Theoretical	Theoretica l question and discussion

The sixte	One oclock ck	In the ninth paragraph	The foundations on which guidance isbased	Theoretical	Theoretical question and discussion
The seventh	One oclock ck		Areas of educational guidanc	Theoretical	Theoretical question and discussion
The eigh	One oclock ck	In the ninth paragraph	Areas of psychological counseling	Theoretical	Theoretical question and discussion
The ninte	One oclock ck	In the ninth paragraph	Counseling theories	Theoretical	Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion

Course Description

1- Course Name:Education guidance	
2- Course Code: :Education guidance and mental health	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) // hala kidder sucker	
8- Course objectives:	
Objectives of the study subject:	• * tughatiy hadhih almadat almanahij aldirasiat watatawuraha * alnaerif ealaa ahim ma yumayiz bayn almanhaj alqadim walhadith * alalmam bibaed tarayiq altadris almutabaeat min qibal altadrisii
9. Teaching and learning strategies	
The strategy	af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat

	alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus

10- Course structure

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The Firs	One ocloc ck	In the ninth paragraph	Psychological counseling educational guidance	Theoretical	Theoretica l question and discussion
The Second	One ocloc ck	In the ninth paragraph	definitions of educational guidance	Theoretical	Theoretica l question and discussion
The Thir	One ocloc ck		the relationship of counseling with other sciences	Theoretical	Theoretica l question and discussion
The four	One ocloc ck	In the ninth paragraph	Indicative methods	Theoretical	Theoretica l question and discussion
The fifth	One ocloc ck		Justifications for educational guidance	Theoretical	Theoretica l question and discussion
The sixte	One ocloc ck	In the ninth paragraph	The foundations on which	Theoretical	Theoretica l question

			guidance isbased		and discussion
The seventh	One oclock		Areas of educational guidanc	Theoretical	Theoretical question and discussion
The eigh	One oclock	In the ninth paragraph	Areas of psychological counseling	Theoretical	Theoretical question and discussion
The ninte	One oclock	In the ninth paragraph	Counseling theories	Theoretical	Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion

Course Description

1. Course Name:
English Language
2. Course Code:
EWC 1102
3. Semester / Year:
Second Semester / 2023-2024
4. Description Preparation Date:
1/4/2024
5. Available Attendance Forms:
In Class
6. Number of Credit Hours (Total) / Number of Units (Total)
2 hours (2 theoretical + 0 Practical)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Nabeel Arif Tawfeeq **Email: edw.nobel_ani_70@uoanbar.edu.iq**

8. Course Objectives

Course Objectives	• **To Learn Speaking English.** • **To understand and comprehend English speaking skills in general.** • **To communicate with foreigners and speak with them in English at all levels and fields of knowledge.** • **To understand and comprehend scientific materials written in the English language and to read various scientific sources that enhance the student's knowledge in the field of specialization.**

9. Teaching and Learning Strategies

Strategy	**1- To familiarize the student with how to read words and sentences in English.** **2- To familiarize the student with the scientific terminology of English Language. To introduce the student to the concept of English Language.** **3- To be able to follow up on all that is new in the field of specialization published in books and scientific journals published in the English language before translating them into Arabic Language.**

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subj name	Learning metho	Evaluation method

1	2	knowledge a understanding	Chapter one: Hello	Lectures and t use of comput and accessories	Electronic, oral a practical exams
2	2	knowledge a understanding	Chapter two: Your world	Lectures and t use of comput and accessories	Electronic, oral a practical exams
3	2	knowledge a understanding	Chapter thre All about you	Lectures and t use of comput and accessories	Electronic, oral a practical exams
4	2	knowledge a understanding	Chapter fou Family friends	Lectures and t use of comput and accessories	Electronic, oral a practical exams
5	2	knowledge a understanding	Chapter five: The way I liv	Lectures and t use of comput and accessories	Electronic, oral a practical exams
6	2	knowledge a understanding	Chapter six: Every day	Lectures and t use of comput and accessories	Electronic, oral a practical exams
7	2	knowledge a understanding	Chapter seve My favourite	Lectures and t use of comput and accessories	Electronic, oral a practical exams

8	**2**	**knowledge a understanding**	**Chapter eig Where I live**	**Lectures and t use of comput and accessories**	**Electronic, oral a practical exams**
9	**2**	**knowledge a understanding**	**Chapter nine Times past**	**Lectures and t use of comput and accessories**	**Electronic, oral a practical exams**
10	**2**	**knowledge a understanding**	**Chapter ten: We had a gr time**	**Lectures and t use of comput and accessories**	**Electronic, oral a practical exams**
11	**2**	**knowledge a understanding**	**Chapter eleve I can do that**	**Lectures and t use of comput and accessories**	**Electronic, oral a practical exams**
12	**2**	**knowledge a understanding**	**Chapter eleve I can do that**	**Lectures and t use of comput and accessories**	**Electronic, oral a practical exams**
13	**2**	**knowledge a understanding**	**Chapter twel Please a thank you**	**Lectures and t use of comput and accessories**	**Electronic, oral a practical exams**
14	**2**	**knowledge a understanding**	**Chapter twel Please a thank you**	**Lectures and t use of comput and accessories**	**Electronic, oral a practical exams**
Course Evaluation					

1- Daily preparation. (10) **2- Monthly exams. (20)** **3- Oral exams (listening & conversation). (10)** **4- Final exam. (60)**

11.Learning and Teaching Resources	
Required textbooks (curricular books, any)	**Headway Level 1 Oxford Univers Student Book.**
Main references (source)	**Headway Level 1 Oxford Univers Student Book.**
Recommended books and referen (scientific journals, reports…)	**Headway Level 1 Oxford Univers Student Book.**
Electronic references, websites.	All websites and Software that are interes in learning English Language.

Course Description

1. Course Name:	
Organic chemistry/first stage	
2. Course Code:	
EWC 3107	
3. Semester / Year:	
2024-2023	
4. Description Preparation Date:	
3/27/2024 Second semester	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
3.5/90	
7. Course administrator's name (mention all, if more than one name)	
Name: Bushra Turki Mahdi **Email: edw.boshra_chemistry@uoanbar.edu.iq**	
8. Course Objectives	
Course Objectives	**Knowing phenols, distinguishing between internal bonds and implicit bonds, knowing the reactions of phenols, distinguishing between them and carboxylic acids, knowing the derivatives of carboxylic acids with examples, knowing the difference between amines and amides, knowing diazanium salts.**

9. Teaching and Learning Strategies					
Strategy	Lectures				
10.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Laboratory preparation methods		Exam + activity	
2	4	Methods of preparing phenols		Exam activity	
3	4	Methods of preparing phenols (Dow process) and (a newer process)		Exam + activity	
4	4	Laboratory preparation methods Laboratory preparation methods 2- Hydrolysis of diazonium salt		Exam activity	
5	4	Phenols interactions		Exam + activity	

		Reaction of phenols as acid, sulfonation, nitrification			
6	4	Monthly exam		Exam	
7	4	Aldehydes and ketones, nomenclature, physical properties, methods of preparation		Exam activity	
8	4	Carboxylic acids, their names, and methods of preparation		Exam + activity	
9	4	Carboxylic acid reactions		Exam + activity	
10	4	Derivatives carboxylic ac (acid chlorid esters, anhydrid amides)		Exam + activity	
11	4	Reactions carboxylic a derivatives		Exam activity	
12	4	Reactions carboxylic a derivatives		Exam activity	
13	4	Reactions carboxylic a derivatives		Exam activity	
14	4	Reactions carboxylic a derivatives		Exam activity	
15	4	Exam		Exam	
11.Course Evaluation					

Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (source)	**Organic Chemistry Morson**
Recommended books and references (scientific journals, reports…)	**Some published scientific articles and research**
Electronic references, websites.	

Course Description

1- Course Name:Education administration	
2- Course Code: : EWC 2203	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) // hala kidder sucker	
8- Course objectives:	
Objectives of the study subject:	• *** tughatiy hadhih almadat almanahij aldirasiat watatawuraha** *** alnaerif ealaa ahim ma yumayiz bayn almanhaj alqadim walhadith** *** alalmam bibaed tarayiq altadris almutabaeat min qibal altadrisii**
9. Teaching and learning strategies	
The strategy	**af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih** **wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat** **alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat**

	alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus

10- Course structure

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The First	One oclock	In the ninth paragraph	Education administration	Theoretical	Theoretical question and discussion
The Seco	One oclock	In the ninth paragraph	concept Education administration	Theoretical	Theoretical question and discussion
The Third	One oclock		leadership	Theoretical	Theoretical question and discussion
The fourt	One oclock	In the ninth paragraph	theoretically leadership	Theoretical	Theoretical question and discussion
The fifth	One oclock		patterns Education administration	Theoretical	Theoretical question and discussion
The sixte	One oclock	In the ninth paragraph	classroom managemen	Theoretical	Theoretical question and discussion

The seventh	One oclock		the importance effective managemen	Theoretical	Theoretical question and discussion
The eight	One oclock	In the ninth paragraph	The concept education supervision	Theoretical	Theoretical question and discussion
The ninte	One oclock	In the ninth paragraph	Techniques The concept educationsupervision	Theoretical	Theoretical question and discussion
			Characteristics school		Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion
					Theoretical question and discussion

Course Description

1- Course Name: **Measurement and evaluation in the educational process**	
2- Course Code: : **Measurement and evaluation**	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) **Dher.alani@uoanbar.edu.iq**	
8- Course objectives:	
Objectives of the study subject:	• * Covering tagets subigt ：Measurement and evaluation *Learn about ut the importance of measurement * Familiarity with some measurement and evaluation testng the meanings of vocabulary, --dentify objective and achievement tests
9. Teaching and learning strategies	
The strategy	af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus

10- Course structure

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The First	One ocloc ck	In the ninth paragraph	Basic concepts in measurement and evaluation	Theoretical	Theoretical question and discussion
The Secon	One ocloc ck	In the ninth paragraph	Types of calendar	Theoretical	Theoretical question and discussion
The Third	One ocloc ck		Behavioral goals	Theoretical	Theoretical question and discussion
The fourth	One ocloc ck	In the ninth paragraph	Test map	Theoretical	Theoretical question and discussion
The fifth	One ocloc ck		the test 1	Theoretical	Theoretical question and discussion
The sixte	One ocloc ck	In the ninth paragraph	Types of achievement tests	Theoretical	Theoretical question and discussion
The sevent	One ocloc ck		Essay tests	Theoretical	Theoretical question and discussion
The eighth	One ocloc ck	In the ninth paragraph	Objective tests	Theoretical	Theoretical question and discussion
The ninte	One ocloc ck	In the ninth paragraph	Performance tests	Theoretical	Theoretical question and discussion
The ninte	One ocloc ck	In the ninth paragraph	Paragraph analysis	Theoretical	Theoretical question and discussion
The eleven	One ocloc ck	In the ninth paragraph	The ease and difficulty of essay paragraphs	Theoretical	Theoretical question and discussion
The twelve	One ocloc ck	In the ninth paragraph	Ease and difficulty of objective paragraphs	Theoretical	Theoretical question and discussion

The thirteen	One oclock	In the ninth paragraph	Highlight essay paragraphs	Theoretical	Theoretical question and discussion
The fourtee	One oclock	In the ninth paragraph	Highlight thematic paragraphs	Theoretical	Theoretical question and discussion
The fifteen	One oclock	In the ninth paragraph	Test 2	Theoretical	Theoretical question and discussion

Course Description

1. Course Name:
Physical Chemistry 2
2. Course Code:
EWC 1202
3. Semester / Year:
Second Semester / 2023-2024
4. Description Preparation Date:
1/4/2024
5. Available Attendance Forms:
In Class
6. Number of Credit Hours (Total) / Number of Units (Total)
2 hours (2 theoretical + 0 Practical)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Mohamed Oday Ezzat Email: edw.mohamed_oday@uoanbar.edu.iq
8. Course Objectives

Course Objectives	A- Knowledge and Understanding A1. To familiarize the student with the concept of physical chemistry A2. The student will know how the gas are distributed in the periodic table A3. Understand the properties of the elements in each group of the periodic table • A4. To familiarize the student with the most important properties, interactions and compounds of the elements of the periodic table.

9. Teaching and Learning Strategies

Strategy	B. Subject-specific skills B1. The student should be able to communicate and communicate B2. Use of modern laboratory equipment and electronic calculators B3. The student should be able to solve problems encountered in the laboratory B4. The ability to communicate and communicate with others in the work environment 4- B5. Teamwork ability

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**2**	knowledge and understanding	knowledge and understanding	General properties of gases	Electronic, oral and practical exams
2	**2**	knowledge and understanding	knowledge and understanding	Kinetic theory of ideal gases	Electronic, oral and practical exams
3	**2**	knowledge and understanding	knowledge and understanding	real gases	Electronic, oral and practical exams

4	**2**	knowledge and understanding	knowledge and understanding	Van Dervals equation	Electronic, oral and practical exams
5	**2**	knowledge and understanding	knowledge and understanding	Mean free path and particle velocities	Electronic, oral and practical exams
6	**2**	knowledge and understanding	knowledge and understanding	The first law of thermodynamics	Electronic, oral and practical exams
7	**2**	knowledge and understanding	knowledge and understanding	Comprehensive properties and concentrated properties	Electronic, oral and practical exams
8	**2**	knowledge and understanding	knowledge and understanding	changes in entropy	Electronic, oral and practical exams
9	**2**	knowledge and understanding	knowledge and understanding	The third law and its general form	Electronic, oral and practical exams
10	**2**	knowledge and understanding	knowledge and understanding	Finding entropy by thermal methods	Electronic, oral and practical exams
11	**2**	knowledge and understanding	knowledge and understanding	Calculation of the entropy of a mixture of gases	Electronic, oral and practical exams
12	**2**	knowledge and understanding	knowledge and understanding	Free energy and chemical equilibrium	Electronic, oral and practical exams
13	**2**	knowledge and understanding	knowledge and understanding	Basic Equations for Closed Systems	Electronic, oral and practical exams
14	**2**	knowledge and understanding	knowledge and understanding	The effect of temperature and pressure on free energy	Electronic, oral and practical exams

Course Evaluation	
1- Daily preparation. (10) 2- Monthly exams. (20) 3- Oral exams (listening & conversation). (10) 4- Final exam. (60)	
11. Learning and Teaching Resources	
Required textbooks (curricular books, any)	Physical Chemistry - Dr. Nouri Khalifa Fayyad
Main references (source)	Physical Chemistry - Dr. Muslim Abd

Course Description

1- Course Name:Education guidance	
2- Course Code: **EWC 2203**	
3- Semester / Year:2023-2024	
4- Date this description was prepared: 16/9/2023	
5- Available attendance forms:my presence	
6- Number of study hours (total)\number of units (total):12 o'clock	
7- Name of the official judge (if more than one name is prohibited) // hala kidder sucker	
8- Course objectives:	
Objectives of the study subject:	• * tughatiy hadhih almadat almanahij aldirasiat watatawuraha * alnaerif ealaa ahim ma yumayiz bayn almanhaj alqadim walhadith * alalmam bibaed tarayiq altadris almutabaeat min qibal altadrisii
9. Teaching and learning strategies	
The strategy	af almaerifiat :- an tariffs altaalibat eilm alarshad binaweih wan tuadih altaalibat ahimiat alarshad __ tubdi altaalibat rayha hawl alaikhtibarat alahdaf almaharatiat :- an tumaris altaalibat siaghat aliahdaf _ an tunaqish altaalibat mumayizat aliakhtibarat alahdaf alwijdaniat :- tatwir qudrat altaalib ealaa aleamal _ altafkir almantiqiu _ an yatahamas altaalib alaa akhudh dawr aldurus
10- **Course structure**	

Week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
The First	One ocloc ck	In the ninth paragraph	Psychological counseling educational guidance	Theoretical	Theoretical question and discussion
The Secon	One ocloc ck	In the ninth paragraph	definitions of educational guidance	Theoretical	Theoretical question and discussion
The Third	One ocloc ck		the relationship of counseling with other sciences	Theoretical	Theoretical question and discussion
The fourth	One ocloc ck	In the ninth paragraph	Indicative methods	Theoretical	Theoretical question and discussion
The fifth	One ocloc ck		Justifications for educational guidance	Theoretical	Theoretical question and discussion
The sixte	One ocloc ck	In the ninth paragraph	The foundations on which guidance isbased	Theoretical	Theoretical question and discussion
The sevent	One ocloc ck		Areas of educational guidanc	Theoretical	Theoretical question and discussion
The eighth	One ocloc ck	In the ninth paragraph	Areas of psychological counseling	Theoretical	Theoretical question and discussion
The ninte	One ocloc ck	In the ninth paragraph	Counseling theories	Theoretical	Theoretical question and discussion

Course Description

1. Course Name:	
Crimes of the defunct Baath regime in Iraq / second stage	
2. Course Code:	
3. Semester / Year:	
2024- 2023-The first semester	
4. Description Preparation Date:	
3/27/2024	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2/32	
7.Course administrator's name (mention all, if more than one name)	
Name: Abrar Mahmood Saleh Email: **abrar.mahmood@uoanbar.edu.iq**	
8. Course Objectives	
Course Objectives	**1- That the student learns about the conditions that prevailed in Iraq and that led to the establishment of the Baath Party.** **2- For the student to become familiar with the situation in the country after the establishment of the defunct Baath Party.** **3- For the student to recognize the conflict that prevailed between the parties during that stage** **4- Empowering the student with the ability to conduct academic scientific research** **5- That the student understands the country's political situation after World War II**
9. Teaching and Learning Strategies	

Strategy	Giving the student a clear idea of the conditions that helped in the emergence of the defunct Baath Party 2- Developing students' creative thinking skills

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The concept of crimes and their types		Exam + activity	
2	2	Definition of crime linguistically and idiomatically		Exam activity	
3	2	-Crime departments		Exam + activity	
4	2	4-Types of international crimes		Exam activity	
5	2	Psychological and social crimes and their effects		Exam + activity	
6	2	Psychological crimes		Exam	
7	2	Mechanisms of psychological crimes		Exam activity	
8	2	Psychological effects of crimes		Exam + activity	
9	2	Militarization of society		Exam + activity	

10	2	Pictures of hum rights violations a crimes of power		Exam + activity	
11	2	Pictures of hum rights violations a crimes of power		Exam activity	
12	2	Environmental crimes of the Ba regime in Iraq		Exam activity	
13	2	Military a radioactive contamination a mine explosions		Exam activity	
14	2	Destroying cities a villages, draining t marshes		Exam activity	
15	2	Razing palm grov trees and crops		Exam	

11.Course Evaluation	
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	A course for all public a private universities/crimes the Baath regime in Iraq
Main references (source)	
Recommended books and references (scientific journals, reports…)	

Course description

1. Course Name
Research methodology
2. Course Code
EWC3203
3. Semester / year :
quarterly
4. The date this description was prepared :
2024-30-3
5. Available attendance forms:
weekly
6. Number of study hours) total \(number of units) total(
2hours a week number of units)
7. Name of the course administrator) if more than one name is mentioned(
the name : Assistant teacher Maysoon Ibrahim Ahmed Email : may19u4004@uoanbar.edu.iq
8. Course objectives

• • identification Students on The concept of scientific research, research methodology, and types of research	**Objectives of the study subject**

9. Teaching and learning strategies	
-1 Explanation and clarification , 2 - Lecture method , 3 -Student groups -4 Brainstorming	**The strategy**

10.Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Theoretical tests	Explanation and	Research	Know the concept of	2	1

	presentation of the lecture		**scientific research**		
Theoretical tests	**Explanation and presentation of the lecture**	**Scientific research plan**	**Identify the scientific research plan**	**2**	2
Theoretical tests	**Explanation and presentation of the lecture**	**Research problem**	**Know the concept of the research problem**	**2**	3
Theoretical tests	**Explanation and presentation of the lecture**	**Scientific research method**	**Knowledge of the concept of scientific research methodology**	**2**	4
Theoretical tests	**Explanation and presentation of the lecture**	**Descriptive method**	**Definition of descriptive method**	**2**	5
Theoretical tests	**Explanation and presentation of the lecture**	**Historical method**	**Definition of the historical method**	**2**	6
Theoretical tests	**Explanation and presentation of the lecture**	**Knowledge**	**Learn about the concept of knowledge**	**2**	7
Theoretical tests	**Explanation and presentation of the lecture**	**Science**	**Learn about the concept of science**	**2**	8

Theoretical tests	**Explanation and presentation of the lecture**		**Monthly exam**	**2**	9
Theoretical tests	**Explanation and presentation of the lecture**	**research assumes**	**Knowledge of research hypotheses**	**2**	10
Theoretical tests And reports	**Explanation and presentation of the lecture**	**The Internet and its role in serving scientific research**	**Knowing the role of the Internet in serving scientific research**	**2**	**11**
the exams the theory	**Explanation and presentation of the lecture**	**Areas of using the Internet in scientific research**	**Identify areas of using the Internet in scientific research**	**2**	**12**
Theoretical tests	**Explanation and presentation of the lecture**	**Types of scientific research**	**Know the types of scientific research**	**2**	**13**
			Monthly exam	**2**	**14**
				2	**15**

11.Course evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation and daily, oral, monthly, and written exams.
Monthly exams are 30 marks
Daily preparation and daily exams 10 marks
Strive 40 degrees
Final exam (60 marks)

12.Learning and teaching resources

Research methodology book	**Required prescribed books) Methodology, if any(**
	Main references) sources(
	Recommended supporting books and references) scientific journals, reports(...
Use of electronic references and websites	**Electronic references , websites**

Course Description

13.Course Name:	
Organic Diagnostic Chemistry / third Stage	
14.Course Code:	
E EWC 3302	
15.Semester / Year:	
2024-2023	
16.Description Preparation Date:	
3/27/2024 first semester	
17.Available Attendance Forms:	
My presence	
18.Number of Credit Hours (Total) / Number of Units (Total)	
2/64	
19.Course administrator's name (mention all, if more than one name)	
Name: Dr. Rasha Azzam Abdullah **Email: edw.rashahamdi74@uoanbar.edu.iq**	
20.Course Objectives	
Course Objectives	**It aims to know Identifying phatic acids, dicarboxylic acids, bases in general, aromatic bases, identifying the positive ion and its reactions, and identifying migration reactions.**
21.Teaching and Learning Strategies	
Strategy	**Lectures**
22.Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Acids		Exam activity	
2	2	Substituted aliphatic acids		Exam activity	
3	2	Dicarboxylic acid		Exam activity	
4	2	Bases		Exam activity	
5	2	Aromatic bases		Exam activity	
6		Exam		Exam	
7	2	Carbo cations		Exam activity	
8	2	Stability of car cations		Exam	
9	2	Reactions of car cations		Exam activity	
10		Rearrangement reactions 1			
11		Rearrangement reactions 2			
12		Migration reactic 1			
13		Migration electron defici oxygen			
14	2	Migration reacti 2		Exam +	
15		Exam			
23.Course Evaluation					

Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.	
24.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (source)	
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

25.Course Name:	
Organic Diagnostic Chemistry / third Stage	
26.Course Code:	
E EWC 3303	
27.Semester / Year:	
2024-2023	
28.Description Preparation Date:	
3/27/2024 second semester	
29.Available Attendance Forms:	
My presence	
30.Number of Credit Hours (Total) / Number of Units (Total)	
2/64	
31.Course administrator's name (mention all, if more than one name)	
Name: Dr. Rasha Azzam Abdullah **Email: edw.rashahamdi74@uoanbar.edu.iq**	
32.Course Objectives	
Course Objectives	**It aims to know Negative Carbon Ions, The Stability of the Negative Carbon Ion Mechanical SN1, Mechanical SN2, and Difference between nucleophylic and basa**
33.Teaching and Learning Strategies	

Strategy	Lectures

34.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Negative Carbon Ions		Exam + activity	
2	2	The Stability of the Negative Carbon Ion		Exam activity	
3	2	The Stability of th Negative Carbon Ion		Exam activity	
4	2	Carbon Ion Negati Interactions		Exam activity	
5	2	First Month Exam		Exam activity	
6	2	Nucleophilic compensation on saturated carbon atom		Exam	
7	2	Mechanical SN1		Exam activity	

8	2	Mechanical SN2		Exam	
9	2	Difference between nucleophylic and basa		Exam activity	
10		Second Month Examination			
11		Fission of resonance signals and its causes			
12		Applications of nuclear resonance in the diagnosis of organic compounds			
13		Elimination Reactions			
14	2	Elimination Reactions		Exam +	
15					

35.Course Evaluation

Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.

36.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (source)	
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

37.Course Name:
Electro physical Chemistry /Third Stage
38. Course Code:
EWC 3305
39.Semester / Year:
Second Semester / 2023-2024
40.Description Preparation Date:
27/3/2024
41.Available Attendance Forms:
In Class
42.Number of Credit Hours (Total) / Number of Units (Total)
12.hours (2 theoretical + 3Practical)
43.Course administrator's name (mention all, if more than one name)
Name: Dr. Saddaa Abed Abdulah **Email: edw.saddaa.abed62@uoanbar.edu.iq**
44.Course Objectives

Course Objectives	• **A basic course for female students in the Chemistry Department that aims to increase female students' scientific knowledge of physical chemistry and what is related to the study of electrochemistry, electrochemical reactions, types of electrical cells, the electrodes from which electrical cells are made, how to calculate the voltage of an electrical cell, the relationship of cell voltage to free energy, thermodynamic constants, chemical balance, applications and the importance of electrical cells and ionic electrical conduction. For strong and weak electrolytes and their salts, factors affecting ionic conduction, and ionic conduction applications..**

45. Teaching and Learning Strategies	
Strategy	**The study of physics and what is related to the study of electrochemistry, electrochemical reactions, types of electrical cells, the electrodes from which electrical cells are made, how to calculate the voltage of the electrical cell, the relationship of the cell voltage to free energy, thermodynamic constants, chemical balance, applications, the importance of electrical cells, ionic electrical conduction of strong and weak electrolytes and their salts, factors affecting ionic conduction, and applications of ionic conduction.**

2. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
	25	knowledge and understanding	Introduction to Electro physical Chemistry	Lectures and the use of computers and accessories	Electronic, oral and practical exams
2	5	knowledge and understanding	Types of electric cells	Lectures and the use of computers and accessories	Electronic, oral and practical exams
3	25	knowledge and understanding	Pole Voltage	Lectures and the use of computers and accessories	Electronic, oral and practical exams
4	55	knowledge and understanding	The Electrodes	Lectures and the use of computers and accessories	Electronic, oral and practical exams
5	25	knowledge and understanding	The relationship between electric momentum and	Lectures and the use of computers and accessories	Electronic, oral and practical exams

			thermodynamic properties.		
6	**25**	**knowledge and understanding**	**Cell Voltage and Equilibrium condition**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
7	**25**	**knowledge and understanding**	**Standard electrodes voltage and equilibrium constant**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
8	**25**	**knowledge and understanding**	**Electrical focus Cell**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
9	**25**	**knowledge and understanding**	**Application On Electric Wattage**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
10	**5**	**knowledge and understanding**	**Electrical Conductance**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
11	**5**	**knowledge and understanding**	**Selected Molar Conductance**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
12	**5**	**knowledge and understanding**	**The effect of Temperature on the Conductivity**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
13	**5**	**knowledge and understanding**	**Practical applications for measuring Conductivity**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**

14	**5**	**knowledge and understanding**	**Calculation of a constant soluble product for the minerals soluble salts**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**

Course Evaluation

5- **Daily preparation. (10)**
6- **Monthly exams. (20)**
7- **Oral exams (listening & conversation). (10)**
8- **Final exam. (60)**

3. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Kinetic and electrical chemistry / Dr. Ali Salman Al-Taie** **Dr- Abdel Majeed Al-Dabbagh - Kinetics and electrochemistry**
Main references (source)	**Kinetic and electrical chemistry / Dr. Ali Salman Al-Taie**
Recommended books and references (scientific journals, reports…)	**. Physical Chemistry By ATKINS 6th ed**
Electronic references, websites.	**All websites and Software that are interested in learning Electro physical Chemistry**

Course Description

1. Course Name:
Inorganic Chemistry
2. Course Code:
EWC 3307
3. Semester / Year:
First Semester / 2023-2024
4. Description Preparation Date:
1/4/2024
5. Available Attendance Forms:
In Class
6. Number of Credit Hours (Total) / Number of Units (Total)
13.hours (4 theoretical + 3 Practical)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Nabeel Arif Tawfeeq **Email: edw.nobel_ani_70@uoanbar.edu.iq**
14.Course Objectives

Course Objectives	• **To understand the principles of chemistry.** • **To know the elements of the periodic table, their arrangement and distribution in cycles and groups.** • **Knowing the properties of the elements, their interactions, the methods of preparing or extracting them, and the form in them on the surface of the Earth.** • **To identify the most important compounds of the elements of the periodic table for each of the groups.**

15.Teaching and Learning Strategies

Strategy	**5- To familiarize the student with the concept of inorganic chemistry** **6- The student will know how the elements are distributed in the periodic table** **7- Understand the properties of the elements in each group of the periodic table** **8- To familiarize the student with the most important properties, interactions and compounds of the elements of the periodic table** **9- To familiarize the student with the importance and role of each element of the periodic table**

16.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	knowledge and understanding	Chapter One: The periodic table How to distribute the elements in the periodic table and the division of elements into the representative elements and transition elements, the radioactive elements available in nature	Lectures and the use of computers and accessories	Electronic, oral and practical exams
2	4	knowledge and understanding	Chapter Two: Hydrogen and its general properties, isotopes of hydrogen, preparation of hydrogen,	Lectures and the use of computers and accessories	Electronic, oral and practical exams

			hydrogen bonding, hydrides		
3	**4**	**knowledge and understanding**	**Chapter Three: Alkaline elements, their presence, distribution and preparation, their solutions in ammonia liquid, compounds of alkaline elements**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
4	**4**	**knowledge and understanding**	**Chapter Four: Alkaline-earth elements, their presence and distribution, their preparation, and their compounds**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
5	**4**	**knowledge and understanding**	**Chapter Five: Elements of the third group, their presence, preparation, and oxygen-boron compounds**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
6	**4**	**knowledge and understanding**	**Boron halides, complex**	**Lectures and the use of computers**	**Electronic, oral and practical exams**

			compounds of aluminum	**and accessories**	
7	**4**	**knowledge and understanding**	**Chapter Six: The elements of the fourth group, carbon, its existence and isotopes**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
8	**4**	**knowledge and understanding**	**Pictures of carbon and carbon compounds, compounds of the rest of the group elements and their importance**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
9	**4**	**knowledge and understanding**	**Chapter Seven: Elements of the fifth group Nitrogen, its presence, isotopes, methods of obtaining it and its compounds**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
10	**4**	**knowledge and understanding**	**Phosphorous - Methods of obtaining it, phosphorous compounds, methods of preparing phosphorous, compounds of the rest of the group elements,**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**

			their importance and uses		
11	**4**	**knowledge and understanding**	**Chapter Eight: The sixth group of oxygen, its presence, methods of obtaining it, its isotopes, its importance, and the compounds of oxygen**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
12	**4**	**knowledge and understanding**	**Sulfur is its presence and ways to obtain it**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
13	**4**	**knowledge and understanding**	**Sulfur compounds and their uses**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**
14	**4**	**knowledge and understanding**	**Chapter Nine: The elements of the seventh group, the halogens, their existence, analogues, methods of preparation, and their general**	**Lectures and the use of computers and accessories**	**Electronic, oral and practical exams**

			characteristics		
15	4	knowledge and understanding	Chapter 10: The noble gases group, the monatomic gases of the zero group	Lectures and the use of computers and accessories	Electronic, oral and practical exams
16	4	knowledge and understanding	The importance and uses of the elements of this group and its compounds, the affinity in the fluorides of these elements	Lectures and the use of computers and accessories	Electronic, oral and practical exams

Course Evaluation

9- Daily preparation. (10)
10- Monthly exams. (20)
11- Reports. (10)
12- Final exam. (60)

17.Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Fundamentals of Inorganic Chemistry. 2- General Inorganic Chemistry.
Main references (source)	- Duran't General Inorganic Chemistry.
Recommended books and references (scientific journals, reports…)	- General Concepts in Inorganic Chemistry. - The Chemistry of Periodic Table Elements.
Electronic references, websites.	All websites and Software that are interested in inorganic chemistry, elements, chemical compounds and periodic tables of the elements

Course Description

1. Course Name:	
Curricula and teaching methods/ third Stage	
2. Course Code:	
E EWC 3301	
3. Semester / Year:	
2024-2023	
4. Description Preparation Date:	
2023 /9/16 second semester	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2/64	
7. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Walid Ahmed Abd Email:	
8. Course Objectives	
Course Objectives	• This subject covers the curriculum and its development • Get to know the most important thing that distinguishes between the ancient and modern approaches • Familiarity with some of the teaching methods used by the teacher**.**

9. Teaching and Learning Strategies	
Strategy	Cognitive objectives: - The student should know the methods and types of teaching The student explains the importance of the teaching method followed. The student expresses her opinion about the tests Skills objectives: - The student should practice formulating objectives - The student should discuss the advantages of test Emotional goals: - Developing the student's ability to wor logical thinking - making the student enthusiastic about taki on the lessons.

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Concepts of terms method, sty and teaching strate		Theoretical questions a discussions oral exams	
2	1	Classifications of teaching methods		Theoretical questions a discussions oral exams	
3	1	The old curriculum		Theoretical questions a	

		The modern approach and the difference between them		discussions oral exams	
4	1	Specifications of a good strategy in teaching		Theoretical questions a discussions oral exams	
5	1	Types of teaching strategies		Theoretical questions a discussions oral exams	
6	1	Effective teaching skills		Theoretical questions a discussions oral exams	
7	1	The foundations on which effective teaching is based		Theoretical questions a discussions oral exams	
8	1	General rules for determining teaching objectives		Theoretical questions a discussions oral exams	

9	1	Specifications of a good strategy in teaching		Theoretical questions a discussions oral exams	
10		Classifications of teaching methods		Theoretical questions a discussions oral exams	

11.Course Evaluation	
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Author: Abdullah Ali Al-Ha Curricula and Teaching Metho 2016
Main references (source)	Dr . Mahmoud A Rubaie..Teaching methods a education methods 2021
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

1. Course Name:
Quantum Chemistry
2. Course Code:
EWC 1202
3. Semester / Year:
Second Semester / 2023-2024
4. Description Preparation Date:
1/10/2023
5. Available Attendance Forms:
In Class
6. Number of Credit Hours (Total) / Number of Units (Total)
2 hours (2 theoretical + 0 Practical)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Mohamed Oday Ezzat **Email: edw.mohamed_oday@uoanbar.edu.iq**
8. Course Objectives

Course Objectives	**D. General and Transferable Skills (other skills relevant to employability and personal development)**

	D1. To familiarize the student with the concept of Quantum chemistry **D2. The student will know gas and an ideal gas.** **D3. Understand the properties of gas** • **D4. To familiarize the student with the most important properties, interactions and compounds of gas.**

9. Teaching and Learning Strategies

Strategy	**B. Subject-specific skills** **B1. The student should be able to communicate and communicate** **B2. Use of modern laboratory equipment and electronic calculators** **B3. The student should be able to solve problems encountered in the laboratory** **B4. The ability to communicate and communicate with others in the work environment** **10- B5. Teamwork ability**

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge and understanding	knowledge and understanding	the basic Concepts	Electronic, oral and practical exams

2	**2**	**knowledge and understanding**	**knowledge and understanding**	**Reasons for the emergence of quantum mechanics**	**Electronic, oral and practical exams**
3	**2**	**knowledge and understanding**	**knowledge and understanding**	**coordinate systems**	**Electronic, oral and practical exams**
4	**2**	**knowledge and understanding**	**knowledge and understanding**	**complex numbers**	**Electronic, oral and practical exams**
5	**2**	**knowledge and understanding**	**knowledge and understanding**	**Newton's law of motion**	**Electronic, oral and practical exams**
6	**2**	**knowledge and understanding**	**knowledge and understanding**	**Bor theorem**	**Electronic, oral and practical exams**
7	**2**	**knowledge and understanding**	**knowledge and understanding**	**hydrogen atom spectra**	**Electronic, oral and practical exams**
8	**2**	**knowledge and understanding**	**knowledge and understanding**	**black body radiation**	**Electronic, oral and practical exams**

9	**2**	**knowledge and understanding**	**knowledge and understanding**	**quantum mechanics hypotheses**	**Electronic, oral and practical exams**
10	**2**	**knowledge and understanding**	**knowledge and understanding**	**body in a box**	**Electronic, oral and practical exams**
11	**2**	**knowledge and understanding**	**knowledge and understanding**	**Approximation methods for the Schroedecker equation**	**Electronic, oral and practical exams**
12	**2**	**knowledge and understanding**	**knowledge and understanding**	**Infrared spectroscopy**	**Electronic, oral and practical exams**
13	**2**	**knowledge and understanding**	**knowledge and understanding**	**microwave spectroscopy**	**Electronic, oral and practical exams**
14	**2**	**knowledge and understanding**	**knowledge and understanding**	**electronic spectra**	**Electronic, oral and practical exams**

Course Evaluation

13- Daily preparation. (10)

14- Monthly exams. (20)

15- Oral exams (listening & conversation). (10)

16- Final exam. (60)	
18.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Physical Chemistry - Dr. Nouri Khalifa Fayyad**
Main references (source)	**Physical Chemistry - Dr. Muslim Abd**

Course Description

1. Course Name:	
English language/fourth stage	
2. Course Code:	
3. Semester / Year:	
2024-2023	
4. Description Preparation Date:	
3/27/2024 scend semester	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2/64	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Rasha Azzam Abdullah **Email: edw.rashahamdi74@uoanbar.edu.iq**	
8. Course Objectives	
Course Objectives	**Learn the English language, how to deal with others, and how to start a conversation**
9. Teaching and Learning Strategies	
Strategy	**Lectures**

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Chapter 1: Family & friends		Exam + activity	
2	2	Chapter 1: Family & friends		Exam activity	
3	2	Chapter 2: The w I live		Exam activity	
4	2	Chapter 2: The wa I live		Exam activity	
5	2	Chapter 3: Every day		Exam activity	
6	2	first Month Exam		Exam	
7	2	Chapter 4: My favourites		Exam activity	
8	2	Chapter 5: Where I live		Exam	

11.Course Evaluation

Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (source)	
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

1. Course Name:
Instrument Analysis
2. Course Code:
EWC 3407
3. Semester / Year:
Semester
4. Description Preparation Date:
1/9/2023
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
Number of Credit Hours = 5 / Number of Units (Total) = 5.5
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Firas Fadhel Ali **Email: edw.firas_flow@uoanbar.edu.iq**

8. Course Objectives

Course Objectives	• **The student understands the meaning of automated analysis.** • **The student should learn about the methods used in automated analysis.** • **Students should learn the idea of automated analysis.** • **The student knows what is meant by electromagnetic radiation.** • **The student knows the spectroscopic methods.** • **The student knows the methods of electrolysis.**

9. Teaching and Learning Strategies

Strategy	• **Daily theoretical lectures.** • **Practical lectures in laboratories.** • **Graduation projects for students of the completed stage a their discussion.**

10. Course Structure

Week	Hours	Require Learnin Outcom	Unit or subject name	Learning metho	Evaluation method

1			**Introduction in instrumental analysis** **Electromagnetic radiation and its interaction with matter ,nature of Electromagnetic radiation ,the photoelectric effect**	**Lectures**	**Exam Activity**
2			**The Electromagnetic spectrum ,refraction of radiation , reflection of radiation ,** **Polarization of light and optical activity ,polarize ,absorption of radiation**		**Exam Activity**
3			**Emission of radiation ,fluorescence and phosphorescence** **Introduction in quantitative analysis by absorption of Electromagnetic radiation , quantitative absorption laws**		**Exam Activity**
4			**Application of beer-lambert law ,limitation the applicability and the deviation from beer law** **Apparatus and component of**		**Exam Activity**

			spectrophotometer ,sources of radiant energy		
5			**Wavelength control ,sample containers** **Detectors ,read out of detector signal**		**Exam Activity**
6			**Application the absorption in uv-visible region , absorption of species** **Solvent effect ,chromophore effect , auxochrome effect , quantitative and qualitative analysis of u visible radiation**		**Exam Activity**
7			**Nephelometeric and turbidimeteric analysis ,Rayle equation** **Turbidimeter , Nephelometer , Application of Nephelometeric and turbidimeteric analysis**		**Exam Activity**
8			**Infrared absorption spectroscopy ,theory of IR radiation absorption ,type of molecular vibration,The energy stretching vibration**		**Exam Activity**

			,harmonic oscillation ,preparation of sample quantitative and qualitative analysis of I radiation,		
9			**Analysis by electrochemical method electrochemical cell ,liquid junction ,some h cell , Nernest equation , reference half cell**		**Exam Activity**
10			**Potentiometry ,direct measurement of concentration ,the potentiometric titration ,the precipitatiometric titration, Complexometric titrati , Oxidation-reduction titration , measurement of pH ,selective electrodes**		**Exam Activity**
11			**Electrodeposition and coulometry ,laws of electrical analysis ,the reaction in cathode and anode, The electrical analysis under controlle potential the measurement of coulometry , methods t measurement of coulometry**		**Exam Activity**

12			**Voltametric and polarography ,the wave polarography , The quantitative analysis an ILKOVIC equation ,Th properties of dropping mercury electrode**		**Exam Activity**
13			**Electrical conductivity ,electrolyte conductivity Application of conductivity measurements , Atomi spectroscopy , Atoic absorption , Atomic absorption spectrophotometer**		**Exam Activity**
14			**Burners and nebulizer The quantitative analys of Atomic absorption, Emission spectroscopy ,excitation of sample , quantitative analysis of Atomic Emission**		**Exam Activity**
15					

11.Course Evaluation

Distributing the score out if 100 according to the tasks assigned to the student su as daily preparation, daily oral, monthly, or written exams, reports,…etc.

12.Learning and Teaching Resources

Required textbooks curricular books, if any)	**Instrumental chemical analysis (Book , Ab ALMuhsen Al- Haedry)** **Instrumental chemical analysis (Book , Fadl Jasem)**
Main references (source)	**Analytical Chemistry (BooK, SKooge)**
Recommended books a references (scientific journa reports…)	
Electronic referenc websites.	

Course Description

1. Course Name:
Industrial Chemistry / Fourth Stage
2. Course Code:
EWC 3408
3. Semester / Year:
2024-2023
4. Description Preparation Date:
3/27/2024 second semester
5. Available Attendance Forms:
My presence
6. Number of Credit Hours (Total) / Number of Units (Total)
5.
7. Course administrator's name (mention all, if more than one name)
Name: Maysoon abrahem ahmed **Email: May19u4004@uoanbar.edu.iq**
8. Course Objectives

Course Objectives	**Identifying polymer and their types , knowing the hardness of water , in addition to knowing the types of cement , as well as the paper industry, and learning about the theories that explain the emergence of crude oil.**

9. Teaching and Learning Strategies	
Strategy	**Lectures**

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	polymer		Exam + activity	
2	4	Calculate the molecular weight of the polymer		Exam activity	
3	4	Water and Indust		Exam activity	
4	4	Hardness of water		Exam activity	
5	4	The effect of salts preset I water on industries		Exam activity	

6	4	Methods for removing hardness and water		Exam	
7	4	Methods of removing dissolved		Exam activity	
8	4	Monthly exam		Exam	
9	4	Glass industry		Exam activity	
10	4	Types of glass			
11	4	Cement industry			
12	4	Types of cement			
13	4	Chemical composition of crude oil			
14	4	Classified crude o		Exam +	
15		Paper industry			

11.Course Evaluation
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.

2.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (source)	
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	

Course Description

1. Course Name:	
Organic Diagnostic Chemistry / Fourth Stage	
2. Course Code:	
EWC 3406	
3. Semester / Year:	
2024-2023	
Description Preparation Date:	
3/27/2024 First semester	
4. Available Attendance Forms:	
My presence	
5. Number of Credit Hours (Total) / Number of Units (Total)	
2/64	
6. Course administrator's name (mention all, if more than one name)	
Name: Dr. Rasha Azzam Abdullah **Email: edw.rashahamdi74@uoanbar.edu.iq**	
7. Course Objectives	
Course Objectives	**It aims to know chemical compounds, their structural formulas, and what is related to their properties and preparation**
8. Teaching and Learning Strategies	
Strategy	**Lectures**

9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to Organic Diagnosis		Exam + activity	
2	2	Infrared Spectrometry		Exam activity	
3	2	Mechanical infrared absorpti		Exam activity	
4	2	mportant bservations and rules in infrared spectrum		Exam activity	
5	2	use of infrared spectrum in identifying organic compounds		Exam activity	
6	2	first Month Exam		Exam	
7	2	IR Applications in Organic		Exam activity	

		Compounds Diagnosis			
8	**2**	**Magnetic Nuclear Resonance Spectrometry**		**Exam**	
9	**2**	**How nuclear resonance occurs**		**Exam activity**	
10		**Important observations in magnetic nuclear resonance spectrometry**			
11		**Fission of resonance signals and its causes**			
12		**Applications of nuclear resonance in the diagnosis of organic compounds**			
13		**Spectroscopic 13CNMR**			
14	**2**	**Second month exa**		**Exam +**	
15		**Issues in t spectroscopy 13CNMR**			

10.Course Evaluation	
Distributing the score out if 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports,…etc.	
11.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (source)	
Recommended books and references (scientific journals, reports…)	
Electronic references, websites.	