Republic of Iraq Ministry of Higher Education & Scientific ResearchSupervision and Scientific Evaluation Directorate Quality Assurance and Academic Accreditation

Academic Program Specification Form For TheAcademic

University: University of Anbar College : Education for Women Department : Chemistry Date Of Form Completion : 30-01-2021



Dean's Name

Prof. Dr. Nasra Hmaid Jadwe

Date : 30-01-2021

Signature



Dean's Assistant For Scientific Affairs Asst. Prof. Dr. Firas Fadhil Ali

> Date : 30-01-2021 Signature

> > 1000

Head of Department

Asst. Prof. Dr. Riyadh Mohamed

Date : 30-01-2021 Signature

Quality Assurance And University Performance Manager Prof. Dr. Ahmed Abdel Sattar Shallal Date : 30-01-2021 Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	Education college for women
2. University Department/Centre	Department of Chemistry
3. Programme Title	Chemistry
4. Title of Final Award	Bachelor Degree
5. Modes of Attendance offered	On-line
6. Accreditation	Bachelor in Chemistry
7. Other external influences	
8. Date of production/revision of	05/09/2023
this specification	
9. Aims of the Program	

Preparing females graduated with high scientific and chemistry skills to meet the needs of Iraqi schools and the community in the field of Chemistry education. 2. Providing the graduates with theoretical and practical skills and preparing them to complete their career in postgraduate studies.

3. Preparing and training graduates who are able to write scientific and applied research in both English and Arabic and publish them in scientific journals.

10. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Knowledge and Understanding A1. Knowledge of the major aspects of chemical terminology and vocabulary
 A2. Knowledge and understanding of fundamental physicochemical principles A3. Knowledge of a range of inorganic and organic materials
A4. Understanding of general synthetic pathways, including related isolation, purification and characterisation techniquesA5. Awareness of issues within chemistry that overlap with other related
disciplines A6. Knowledge of selected aspects of chemistry at the forefront of the discipline
B. Subject-specific Skills
 B1. Demonstrate skills in the safe-handling of chemical materials, taking into account their physical and chemical properties including any specific hazards associated with their use. B2. Conduct risk assessment
B3. Operate standard chemical instrumentation
2. Worksheets.
3. Laboratory activities.
Assessment methods
1. Daily exams.
2. Monthly exams. 3. Practical:
4. Final exams.
C. Thinking Skills
C1. The ability to distinguish between qualitative and quantitative analysis. C2. The ability to distinguish between volumetric and gravimetric analysis. C3. The ability to distinguish between classical and instrumental methods.
Teaching and Learning Methods
1. Daily theoretical lectures.
2. Practical lectures in laboratories.
3. Graduation projects for students of the finished stage and their discussion.

- 1. Monthly and quarterly written exams.
- 2. Quick exams (Quizzes).
- 3. Oral Exams.
- 4. Online-tasks.

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

D1. Students have the ability to express themselves and show their potentials.

D2. Students have the ability to compete in the field of business.

D3. Students have the ability to work collaboratively and achieve goals within available time and tools.

D4. Students have the ability to improve their own skills and apply them to serve the community.

Teaching and Learning Methods

1. Daily theoretical lectures.

2. Practical lectures in laboratories.

3. Graduation projects for students of the finished stage and their discussion

Assessment Methods

- 1. Monthly and quarterly written exams.
- 2. Quick exams (Quizzes).
- 3. Oral Exams.
- 4. Online-tasks.

11. Program	me Structure			
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
	EWC 1101	Arabic Language	2	Bachelor Degree
	EWC 1102	English Language	2	Requires (x) credits
	EWC 2101	Educational psychology	2	
	EWC 2102	Human Rights	2	
	EWC 2103	Fundamentals of Education	2	
	EWC 3101	General Biology	3	
First	EWC 3102	Computer Science/1	3	
	EWC 3103	Mathematics / 1	2	
	EWC 3104	Analytical Chemistry/1	3.5	
	EWC 3105	Analytical Chemistry/2	3.5	
	EWC 3106	Organic Chemistry/1	3.5	
	EWC 3107	Organic Chemistry/2	3.5	
	EWC 3108	Inorganic Chemistry/1	2	
	EWC 3109	Inorganic Chemistry/2	2	
Total Credits			36	

11. Program	me Structure							
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits				
	EWC 2201	Psychology of Growth	2	Bachelor Degree				
	E W C 2202	Democracy	2	credits				
	EWC 2203	Educational Administration	2					
	EWC 3201	Mathematics/2	2					
	EWC 3202	Physics	2					
Second	EWC 3203	Research Methodology	2					
	EWC 3204	Computer Science/2	2					
	EWC 3205	Organic Chemistry/3	5.5					
	EWC 3206	Inorganic Chemistry/3	5.5					
	EWC 3207	Physical Chemistry/1	5.5					
	EWC 3208	Analytical Chemistry/3	5.5					
Total Credits			37					

11. Program	me Structure			
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
	EWC 2301	Guidance and Psychological Health	2	Bachelor Degree
	EWC 2301	Pedagogy and Curriculum	2	Requires (x) credits
	EWC 3301	Pollution	2.5	
	EWC 3302	Organic Chemistry/4	3.5	
Third	EWC 3303	Organic Chemistry/5	3.5	
11110	EWC 3304	Industrial Chemistry/1	5.5	
	EWC 3305	Physical Chemistry/2	3.5	
	EWC 3306	Physical Chemistry/3	3.5	
	EWC 3307	Inorganic Chemistry/4	3.5	
	EWC 3308	Biochemistry/1	2.5	
Total Credits			35.5	

11. Program	me Structure			
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
	EWC 2401	Measurement and Evaluation	2	Bachelor Degree
	EWC 2402	School applications	2	Requires (x) credits
	EWC 3401	Optional Subject	2	
	EWC 3402	Graduation Project	1.5	
Fourth	EWC 3403	Biochemistry/2	3.5	
	EWC 3404	Biochemistry/3	3.5	
	EWC 3405	Quantum Mechanics & Spectroscopy	2	
	EWC 3406	Organic Identification	3.5	
	EWC 3407	Instrumental Analysis	5.5	
	EWC 3408	Industrial Chemistry/2	4	
Total Credits			32.5	

13. Personal Development Planning

We have an ambition to expand admission for the coming years, introduce new curricula, and establish twinning with other departments to keep pace with recent

developments.

14. Admission criteria.

Admission criterion (setting regulations related to joining the college or institute)

✤ Adopting the admission requirements for students in accordance with the regulations of the Ministry of Higher Education and Scientific Research (central admission)

- To pass the personal interview of the department.
- To be fit for a medical examination.
- High school average.
- The absorptive capacity of the college.

15. Key sources of information about the programme

The most important sources of information about the program.

- The needs of the Ministry of Education
- Local trends of the governorate
- Studies and questionnaires.

						Cur	ricul	um S	kills	Map										
	plea	ase tick in the	e relevant bo	xes v	wher	e indi	vidua	al Pro	ograi	nme I	earn	ing O	utcom	es are	being	g asse	essed			
									Р	rogra	mme	Lear	ning O	utcon	ies					
Year / Level	Course Code	Course Title	Core (C) Title or Option	K U	Knowledge and understanding Subject-specific skills Thinking Skills									S	General and Transferable Skills (or) Other skills relevant to employability and personal development					
				A1	A2	A3	A4	B 1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4	
First	EWC 1101	Arabic Language	С	\checkmark																
	EWC 1102	English Language	С																	
	EWC 2101	Educational psychology	C													\checkmark				
	EWC 2102	Human Rights	С																	
	EWC 2103	Fundamentals of Education	С					\checkmark				\checkmark				\checkmark				
	EWC 3101	General Biology	C					\checkmark												
	EWC 3102	Computer Science/1	С		\checkmark			\checkmark				\checkmark	\checkmark			\checkmark	\checkmark			
	EWC 3103	Mathematics/1	С																	
	EWC 3104	Analytical Chemistry/1	С		\checkmark			\checkmark			\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
	EWC 3105	Analytical Chemistry/2	C					\checkmark					\checkmark		\checkmark	\checkmark		\checkmark	\checkmark	
	EWC 3106	Organic Chemistry/1	C		\checkmark										\checkmark			\checkmark	\checkmark	
	EWC 3107	Organic Chemistry/2	C																	
	EWC 3108	Inorganic Chemistry/1	C																	
	EWC 3109	Inorganic Chemistry/2	C												\checkmark					

						Cur	ricul	um S	kills	Map									
	plea	se tick in the r	elevant bo	oxes v	where	e indi	vidua	al Pro	ograi	nme I	learn i	ing O	utcom	es are	being	g asse	essed		
									Р	rogra	mme	Lear	ning O	outcon	ies				
Year / Level	Course Code	CourseTitle	Core(C) Title or Option(O)	K u	Knowledge and Subject-specific skills Thi		Fhinkin	ıg Skill	S	Gen Sk relev and j	eral and ' ills (or) (vant to er personal	Transfer Other sk mployab develop	able ills oility ment						
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
Second	EWC 2201	Psychology of Growth	С	\checkmark								\checkmark							
	EWC 2202	Democracy	С																
	EWC 2203	Educational Administration	С	\checkmark															
	EWC 3201	Mathematics/2	С																
	EWC 3202	Physics	С																
	EWC 3203	Research Methodology	С									\checkmark							
	EWC 3204	Computer Science/2	С	\checkmark	\checkmark				\checkmark			\checkmark	\checkmark			\checkmark	\checkmark		
	EWC 3205	Organic Chemistry/3	С	\checkmark	\checkmark							\checkmark					\checkmark		
	EWC 3206	Inorganic Chemistry/3	C																
	EWC 3207	Physical Chemistry/1	C		\checkmark														\checkmark
	EWC 3208	Analytical Chemistry/3	С												\checkmark				

						Cur	ricul	um S	kills	Map										
	plea	se tick in the	relevant bo)xes v	wher	e indi	vidua	al Pro	ograi	nme I	Jearn i	ing O	utcom	es are	being	g asse	essed			
									P	rogra	mme	Lear	ning O	utcon	nes					
Year/ Level	Course Code	CourseTitle	Core (C) Title or Option(O)	K U	Knowledge and understanding		Subject-specific skills					Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development				
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4	
Third	EWC 2301	Guidance and Psychological Health	С	V				\checkmark				\checkmark				\checkmark				
	EWC 2301	Pedagogy and Curriculum	С					\checkmark				\checkmark				\checkmark				
	EWC 3301	Pollution	С					\checkmark				\checkmark				\checkmark				
	EWC 3302	Organic Chemistry/4	С																	
	EWC 3303	Organic Chemistry/5	С																	
	EWC 3304	Industrial Chemistry/1	С																	
	EWC 3305	Physical Chemistry/2	С		\checkmark			\checkmark				\checkmark	\checkmark			\checkmark				
	EWC 3306	Physical Chemistry/3	С																	
	EWC 3307	Inorganic Chemistry/4	С																\checkmark	
	EWC 3308	Biochemistry/1	С																\checkmark	

						Cur	ricul	um S	kills	Map									
	plea	ase tick in the	relevant bo)xes v	where	e indi	vidua	al Pro	ograr	nme I	Learn i	ing O	utcom	es are	bein	g asse	essed		
									Р	rogra	mme	Lear	ning O	utcon	ies				
Year / Level	Course Code	CourseTitle	Core (C) Title or Option(O)	K u	Knowledge and understanding Subject-specific skills Thinking Skills							General and Transferable Skills (or) Other skills relevant to employability and personal development							
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
Fourth	EWC 2401	Measurement and Evaluation	С					\checkmark											
	EWC 2402	School applications	С	\checkmark				\checkmark								\checkmark			
	EWC 3401	Optional Subject	С																
	EWC 3402	Graduation Project	С					\checkmark											
	EWC 3403	Biochemistry /2	С					\checkmark											
	EWC 3404	Biochemistry /3	С																
	EWC 3405	Quantum Mechanics & Spectroscopy	С	\checkmark	\checkmark			\checkmark	\checkmark			\checkmark	\checkmark			\checkmark	\checkmark		
	EWC 3406	Organic Identification	С		\checkmark			\checkmark	\checkmark				\checkmark						
	EWC 3407	Instrumental Analysis	С		\checkmark		\checkmark	\checkmark	\checkmark	\checkmark			\checkmark	\checkmark			\checkmark	\checkmark	\checkmark
	EWC 3408	Industrial Chemistry/2	С						\checkmark					\checkmark					

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research
2. University Department/Centre	College of Education For Women/ University of Anbar
3. Course title/code	Chemistry
4. Programme(s) to which it contributes	Google classroom, Google Meet
5. Modes of Attendance offered	Electronic lectures
6. Semester/Year	First stage
7. Number of hours tuition (total)	90
8. Date of production/revision of this specification	30/8/2020
9. Aims o	of the Course

Understanding The concept of organic chemistry with a profile of organic compounds in general.

Understanding The concept of saturated and unsaturated organic compounds, recognizing the concept of alkanes, hybridization, naming, methods of preparation and reactions.

Identify, hybridize, name and identify Cis and trans isomers and its methods of preparation and reactions

10. Learning Outcomes, Teaching ,Learning and Assessment Methode
A- Knowledge and Understanding A1. The ability to name different types of alkanes A2. The ability to communicate A3. The ability to evaluate correctly A4. The ability to make proposals and solve problems A5. The ability to conclude and compare A6.
B. Subject-specific skills B1. The ability to make proposals and solve problems B2. The ability to conclude and compare B3.
Teaching and Learning Methods
Electronic lectures using Google Meet
Assessment methods
1 Midterm exem
2 Electronic activity
3 Electronic practical exam
4 Electronic oral exam
5 Final attendance exam
C. Thinking Skills C1. The ability to make proposals and solve problems C2. The ability to conclude and compare C3. C4.
Teaching and Learning Methods
Electronic lectures
Assessment methods
Electronic exams and Oral Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Hand lability of work environment problems D2. Correct discrimination of problems and the ability to find solutions to them D3. Setting appropriate business standards D4.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2		Learn about the meaning and classifications of organic chemistry	Electronic lectures	Exam+ activity
2	2		Knowing and naming Alkanes	Electronic lectures	Exam+ activity
3	2		Additional examples of the label of Alkanes	Electronic lectures	Exam+ activity
4	2		Methods of preparation and reactions of Alkanes	Electronic lectures	Exam+ activity
5	2		Knowing and naming Alkenes	Electronic lectures	Exam+ activity
6	2		Additional examples of Alkenes naming	Electronic lectures	Exam+ activity
7	1		First month's electronic exam		
8	2		Alkenes preparation methods	Electronic lectures	Exam+ activity
9	2		Alkenes reactions	Electronic lectures	Exam+ activity
10	2		Dienes	Electronic lectures	Exam+ activity
11	2		Nomenclature of dienes	Electronic lectures	Exam+ activity

12	2	Preparation of dienes and reactions	Electronic lectures	Exam+ activity
13	2	Second month exam Oral exam		

12. Infrastructure			
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER			
Special requirements (include for example workshops, periodicals, IT software, websites)			
Community-based facilities (include for example, guest Lectures , internship , field studies)			

13. Admissions				
Pre-requisites				
Minimum number of students				
Maximum number of students				

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific
2. University Department/Centre	College of Education For Women/ University of Anbar
3. Course title/code	Chemistry
4. Programme(s) to which it contributes	Google classroom, Google Meet
5. Modes of Attendance offered	Electronic lectures
6. Semester/Year	First stage
7. Number of hours tuition (total)	90
8. Date of production/revision of this specification	30/3/2021
9. Aims o	of the Course
Understanding The concept of uns	saturated organic compounds and the

knowledge of the Alkynes and their naming and methods of preparation and interactions

Learn how to prepare different compounds from other compounds Learn about the meaning and concept of aromatic compounds and the rules for identifying aromatic compounds

10. Learning Outcomes, Teaching ,Learning and Assessment Methode A- Knowledge and Understanding A1. The ability to name different types of alkynes A2. The ability to communicate A3. The ability to evaluate correctly A4. The ability to make proposals and solve problems A5. The ability to conclude and compare A6. B. Subject-specific skills B1. The ability to make proposals and solve problems B2. The ability to conclude and compare **B**3. Teaching and Learning Methods Electronic lectures using Google Meet Assessment methods 1 Midterm exam 2 Electronic activity 3 Electronic practical exam 4 Electronic oral exam 5 Final attendance exam C. Thinking Skills C1. The ability to make proposals and solve problems C2. The ability to conclude and compare C3. C4. Teaching and Learning Methods Electronic lectures Assessment methods Electronic exams and Oral Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Hand lability of work environment problems D2. Correct discrimination of problems and the ability to find solutions to them D3. Setting appropriate business standards D4.

	11. Course Structure				
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2		Review the alkenes and get into the subject of the alkynes	Electronic lectures	Exam+ activity
2	2		Naming alkynes and ways to prepare them	Electronic lectures	Exam+ activity
3	2		Alkynes reactions	Electronic lectures	Exam+ activity
4	2		How to prepare halides and their interactions	Electronic lectures	Exam+ activity
5	2		Knowing and naming Alkenes	Electronic lectures	Exam+ activity
6	1		First month's electronic exam		
7	2		Cycloalkanes	Electronic lectures	Exam+ activity
8	2		Aromatic compounds	Electronic lectures	Exam+ activity
9	2		Benzene and the naming of its derivatives	Electronic lectures	Exam+ activity
10	2		Methods of preparing benzene derivatives	Electronic lectures	Exam+ activity
11	2		Examples of the preparation of different compounds	Electronic lectures	Exam+ activity
13	2		Second month exam Oral exam		

12. Infrastructure				
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER				
Special requirements (include for example workshops, periodicals, IT software, websites)				
Community-based facilities (include for example, guest Lectures , internship , field studies)				

13. Admissions			
Pre-requisites			
Minimum number of students			
Maximum number of students			

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research		
2. University Department/Centre	College of Education For Women/ University of Anbar		
3. Course title/code	Chemistry		
4. Programme(s) to which it contributes	Google classroom, Google Meet		
5. Modes of Attendance offered	Electronic lectures		
6. Semester/Year	First stage		
7. Number of hours tuition (total)	90		
8. Date of production/revision of this specification	30/3/2021		
9. Aims o	of the Course		
Understanding The concept of uns	saturated organic compounds and the		

Understanding The concept of unsaturated organic compounds and the knowledge of the Alkynes and their naming and methods of preparation and interactions

Learn how to prepare different compounds from other compounds Learn about the meaning and concept of aromatic compounds and the rules for identifying aromatic compounds

10. Learning Outcomes, Teaching ,Learning and Assessment Methode A- Knowledge and Understanding A1. The ability to name different types of alkynes A2. The ability to communicate A3. The ability to evaluate correctly A4. The ability to make proposals and solve problems A5. The ability to conclude and compare A6. B. Subject-specific skills B1. The ability to make proposals and solve problems B2. The ability to conclude and compare **B**3. Teaching and Learning Methods Electronic lectures using Google Meet Assessment methods 1 Midterm exam 2 Electronic activity 3 Electronic practical exam 4 Electronic oral exam 5 Final attendance exam C. Thinking Skills C1. The ability to make proposals and solve problems C2. The ability to conclude and compare C3. C4. Teaching and Learning Methods Electronic lectures Assessment methods Electronic exams and Oral Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Hand lability of work environment problems D2. Correct discrimination of problems and the ability to find solutions to them D3. Setting appropriate business standards

D4.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2		Review the alkenes and get into the subject of the alkynes	Electronic lectures	Exam+ activity
2	2		Naming alkynes and ways to prepare them	Electronic lectures	Exam+ activity
3	2		Alkynes reactions	Electronic lectures	Exam+ activity
4	2		How to prepare halides and their interactions	Electronic lectures	Exam+ activity
5	2		Knowing and naming Alkenes	Electronic lectures	Exam+ activity
6	1		First month's electronic exam		
7	2		Cycloalkanes	Electronic lectures	Exam+ activity
8	2		Aromatic compounds	Electronic lectures	Exam+ activity
9	2		Benzene and the naming of its derivatives	Electronic lectures	Exam+ activity
10	2		Methods of preparing benzene derivatives	Electronic lectures	Exam+ activity
11	2		Examples of the preparation of different compounds	Electronic lectures	Exam+ activity
13	2		Second month exam		

12. Infrastructure				
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER				
Special requirements (include for example workshops, periodicals, IT software, websites)				
Community-based facilities (include for example, guest Lectures , internship , field studies)				

13. Admissions			
Pre-requisites			
Minimum number of students			
Maximum number of students			

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	Inorganic Chemistry / 1	
2. University Department/Centre	chemistry	
3. Programme Title	Lectures: 2 Laboratories: Training: Total: 2	
4. Title of Final Award	Arabia	
5. Modes of Attendance offered	first / first chapter	
6. Accreditation		
7. Other external influences		
8. Date of production/revision of		
this specification		
9. Aims of the Programme		
a. That the student understand the principles of inorganic chemistry.		
B. That the student knows the structure of the atom.		
c. To know the types of chemical bonds and chemical compounds.		
D. To know the structure and shapes of ionic and covalent compounds.		

e. To know the elements of the periodic table and their arrangement and distribution in periods and groups.

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research	
2. University Department/Centre	College of Education For Women/ University of Anbar	
3. Course title/code	Chemistry	
4. Programme(s) to which it contributes	Google classroom, Google Meet	
5. Modes of Attendance offered	Electronic lectures	
6. Semester/Year	First stage	
7. Number of hours tuition (total)	90	
8. Date of production/revision of this specification	30/8/2020	
9. Aims o	of the Course	
a. That the student understand th	e principles of inorganic chemistry.	
B. That the student knows the structure of the atom.		
c. To know the types of chemical bonds and chemical compounds.		
D. To know the structure and shapes of ionic and covalent compounds.		
e. To know the elements of the periodic table and the	eir arrangement and distribution in periods and groups.	

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and UnderstandingA1. To familiarize the student with how to deduce the components of an atom

A2 To familiarize the student with how bonds are formed and their types A3To understand the properties of ionic and covalent bonds and the properties of each of these types

A4 To familiarize the student with the most important ionic and covalent compounds A5 To familiarize the student with the periodic table of the elements and how the elements are

arranged in it.

B. Subject-specific skills

B.1 Ability to deal with information sources and inorganic chemistry books B.2 The ability to distinguish between the components of an atom (electron, proton, and neutron)

B.3 The ability to know the four quantum numbers for each of the elements B.4 The ability to know the term symbols of atoms in the stable and excited state

B.5 The ability to know the properties of periodic elements arranged in groups and cycles.

Teaching and Learning Methods

Assessment methods

C. Thinking SkillsC.1 Ability to deal with problems in the work environment

C.2 The student distinguishes between types of problems in terms of their impact

C.3 The student will study a number of different elements and their compounds

C.4 Carry out a research project on the elements, compounds and the periodic table

C.5 The ability to use the resources available in the college library and the rest of the available libraries.

Teaching and Learning Methods

Assessment methods

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

 D.1 The student should be able to communicate and communicate D.2 Using computers and the Internet
 D.3 The student should be able to solve the problems he faces when searching for a specific scientific information
 D.4 The ability to communicate and communicate with others in the work environment

	11. Course Structure			
Week	Hours	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Chapter One: The Structure of the Atom; the origin of quantum theory; electromagnetic radiation; black body radiation; Photoelectric effect		
2	2	atomic spectra; bur corn; Bohr's theory; application of Bohr's theorem; Developed Bohr's theory		
3	2	Zeeman effect; Electron twirl effect; Fundamentals of wave mechanics		
4	2	Mathematical description of wave motion; Schroedinger equation; Solve the Schroeder Equation		
5	2	quantum numbers; physical meaning of quantum numbers; Physical description of atomic orbitals		
6	2	Orbital energy sequence; atomic states derived from electronic arrangement; Term Codes		
7	2	Chapter two: Some periodic properties of atoms. blocking		
8	2	ionization energy; electronic affinity; Electronegativity		
9	2	atomic radii; covalent radii; ionic radii		
10	2	Chapter Three: Ionic Compounds; properties of ionic compounds; crystal lattice energy		
11		Bourne-Haber cycle; polarization of ionic		

D.5 The ability to do organized team work.

		compounds; solubility of ionic compounds; Other applications of retinal enthalpy	
12	2	proton affinity calculations for compounds; stability of hypothesis compounds; Maximum oxidation states of metals	
13	2	the structure of ionic compounds; tight stacking of balls; the structure of ionic crystals; Crystal structure of some ionic compounds	
14	2	the structure of sodium chloride; cesium chloride structure; blend zinc structure; fluorite structure; rutile structure	
15	2	Exam	

12. Infrastructure		
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER		
Special requirements (include for example workshops, periodicals, IT software, websites)		
Community-based facilities (include for example, guest Lectures , internship , field studies)		

13. Admissions		
Pre-requisites		
Minimum number of students		
Maximum number of students		

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	Inorganic Chemistry / 1	
2. University Department/Centre	chemistry	
3. Programme Title	Lectures: 2 Laboratories: Training: Total: 2	
4. Title of Final Award	Arabia	
5. Modes of Attendance offered	first / first chapter	
6. Accreditation		
7. Other external influences		
8. Date of production/revision of		
this specification		
9. Aims of the Programme		
a. That the student understand the principles of inorganic chemistry.		

B. That the student knows the structure of the atom.

c. To know the types of chemical bonds and chemical compounds.

D. To know the structure and shapes of ionic and covalent compounds.

e. To know the elements of the periodic table and their arrangement and distribution in periods and groups.

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research	
2. University Department/Centre	College of Education For Women/ University of Anbar	
3. Course title/code	Chemistry	
4. Programme(s) to which it contributes	Google classroom, Google Meet	
5. Modes of Attendance offered	Electronic lectures	
6. Semester/Year	First stage	
7. Number of hours tuition (total)	90	
8. Date of production/revision of this specification	30/8/2020	
9. Aims o	of the Course	
a. That the student understand th	e principles of inorganic chemistry.	
B. That the student knows the structure of the atom.		
c. To know the types of chemical bonds and chemical compounds.		
D. To know the structure and shapes of ionic and covalent compounds.		
e. To know the elements of the periodic table and the	eir arrangement and distribution in periods and groups.	

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and UnderstandingA1. To familiarize the student with how to deduce the components of an atom

A2 To familiarize the student with how bonds are formed and their types A3To understand the properties of ionic and covalent bonds and the properties of each of these types

A4 To familiarize the student with the most important ionic and covalent compounds A5 To familiarize the student with the periodic table of the elements and how the elements are

arranged in it.

B. Subject-specific skills

B.1 Ability to deal with information sources and inorganic chemistry books B.2 The ability to distinguish between the components of an atom (electron, proton, and neutron)

B.3 The ability to know the four quantum numbers for each of the elements B.4 The ability to know the term symbols of atoms in the stable and excited state

B.5 The ability to know the properties of periodic elements arranged in groups and cycles.

Teaching and Learning Methods

Assessment methods

C. Thinking SkillsC.1 Ability to deal with problems in the work environment

C.2 The student distinguishes between types of problems in terms of their impact

C.3 The student will study a number of different elements and their compounds

C.4 Carry out a research project on the elements, compounds and the periodic table

C.5 The ability to use the resources available in the college library and the rest of the available libraries.

Teaching and Learning Methods

Assessment methods

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

 D.1 The student should be able to communicate and communicate D.2 Using computers and the Internet
 D.3 The student should be able to solve the problems he faces when searching for a specific scientific information
 D.4 The ability to communicate and communicate with others in the work environment

	11. Course Structure			
Week	Hours	Unit/Module or Topic Title	Teaching Method	AssessmentMethod
1	2	Chapter One: The Structure of the Atom; the origin of quantum theory; electromagnetic radiation; black body radiation; Photoelectric effect		
2	2	atomic spectra; bur corn; Bohr's theory; application of Bohr's theorem; Developed Bohr's theory		
3	2	Zeeman effect; Electron twirl effect; Fundamentals of wave mechanics		
4	2	Mathematical description of wave motion; Schroedinger equation; Solve the Schroeder Equation		
5	2	quantum numbers; physical meaning of quantum numbers; Physical description of atomic orbitals		
6	2	Orbital energy sequence; atomic states derived from electronic arrangement; Term Codes		
7	2	Chapter two: Some periodic properties of atoms. blocking		
8	2	ionization energy; electronic affinity; Electronegativity		
9	2	atomic radii; covalent radii; ionic radii		
10	2	Chapter Three: Ionic Compounds; properties of ionic compounds; crystal lattice energy		
11		Bourne-Haber cycle; polarization of ionic		

D.5 The ability to do organized team work.

		compounds; solubility of ionic compounds; Other applications of retinal enthalpy	
12	2	proton affinity calculations for compounds; stability of hypothesis compounds; Maximum oxidation states of metals	
13	2	the structure of ionic compounds; tight stacking of balls; the structure of ionic crystals; Crystal structure of some ionic compounds	
14	2	the structure of sodium chloride; cesium chloride structure; blend zinc structure; fluorite structure; rutile structure	
15	2	Exam	

]	2. Infrastructure
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions		
Pre-requisites		
Minimum number of students		
Maximum number of students		
HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	Inorganic Chemistry / 1	
2. University Department/Centre	chemistry	
3. Programme Title	Lectures: 2 Laboratories: Training: Total: 2	
4. Title of Final Award	Arabia	
5. Modes of Attendance offered	first / first chapter	
6. Accreditation		
7. Other external influences		
8. Date of production/revision of		
this specification		
9. Aims of the Programme		
a. That the student understand the principles of inorganic chemistry.		
B. To know the types of chemical bonds and chemical compounds.		
c. To know the structure and shapes of ionic and covalent compounds.		

Dr. To familiarize the student with stereochemistry and the forms of stereochemical compounds.

e. To know the elements of symmetry in different compounds

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research			
2. University Department/Centre	College of Education For Women/ University of Anbar			
3. Course title/code	Chemistry			
4. Programme(s) to which it contributes	Google classroom, Google Meet			
5. Modes of Attendance offered	Electronic lectures			
6. Semester/Year	First stage			
7. Number of hours tuition (total)	90			
8. Date of production/revision of this specification	30/8/2020			
9. Aims of the Course				
a That the student understand the principles of inorganic chemistry				
B. To know the types of chemical bonds and chemical compounds.				
c. To know the structure and shapes of ionic and covalent compounds.				
Dr. To familiarize the student with stereochemistry and the forms of stereochemical compounds.				
e. To know the elements of symmetry in different compounds				
a. That the student understand the principles of inorganic chemistry.				

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding A.1 The student will know how to infer the type of chemical bonds

A.2 The student will know how bonds are formed and their types A.3 Understand the properties of ionic and covalent bonds of different compounds A.4 The student will identify the most important ionic and covalent compounds A.5 The student will recognize the symmetry of different chemical compounds

B. Subject-specific skills

B.1 Ability to deal with information sources and inorganic chemistry books B.2 Theoretically, the ability to distinguish between covalent and ionic bonds B.3 The ability to know the properties and characteristics of ionic and covalent compounds B.4 The ability to know the symmetry of different compounds

B.5 The ability to know the elements of symmetry in stereochemistry

Teaching and Learning Methods

Assessment methods

C. Thinking Skills

C.1 Ability to deal with problems in the work environment C.2 The student distinguishes between types of problems in terms of their impact C.3 The student will study a number of different elements and their compounds C.4 Carry out a research project on ionic and covalent compounds

C.5 The ability to use the resources available in the college library and the rest of the available libraries

Teaching and Learning Methods

D. General and Transferable Skills (other skills relevant to employability and personal development)
 D.1 The student should be able to communicate and communicate
 D.2 Using computers and the Internet
 D.3 The student should be able to solve the problems he faces when searching for a specific scientific information
 D.4 The ability to communicate and communicate with others in the work environment
 D.5 The ability to do organized team work

11. Course Structure				
Week	Hours	Unit/Module orTopic Title	Teaching Method	Assessment Method
1	2	Chapter Four: Covalent Bonds; an introduction ; valence bond theory; molecular orbital theory		
2	2	The idea of overlap and the strength of the bond; Symmetry in molecular orbitals		
3	2	Molecular orbitals are binary molecules containing two similar atoms		
4	2	Molecular orbitals are binary molecules that contain two different atoms		
5	2	Chapter Five: Forms of some simple inorganic compounds; triatomic straight particles; flat triangular particles		
6	2	Molecules have a tetrahedral shape; D orbitals and bonding		
7	2	Awasr Bay □; forms of inorganic compounds; lithium and alkaline elements; Beryllium and alkaline earth elements		
8	2	boron and group 3b elements; carbon and group 4b elements; Nitrogen and the elements of group 5b		
9	2	oxygen and the elements of group 6b; fluorine and group 7b elements; Forms of noble gas compounds		
10	2	Forms of compounds of non- transition elements; Electron double repulsion method in the valence layer		
11		first rule ; second rule; third rule; Fourth rule		
12	2	Chapter Six: Symmetry; an introduction ; Symmetry elements		
13	2	center of symmetry or center of		

		inversion; The axis of rotation ; Mirror plane or symmetry plane	
14	2	reflex spindle; identity; Symmetry groups	
15	2	Exam	

12. Infrastructure		
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER		
Special requirements (include for example workshops, periodicals, IT software, websites)		
Community-based facilities (include for example, guest Lectures , internship , field studies)		

13. Admissions		
Pre-requisites		
Minimum number of students		
Maximum number of students		

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research
2. University Department/Centre	College of Education For Women/ University of Anbar
3. Course title/code	Chemistry
4. Programme(s) to which it contributes	Google classroom, Google Meet
5. Modes of Attendance offered	Electronic lectures
6. Semester/Year	Second stage
7. Number of hours tuition (total)	90
8. Date of production/revision of this specification	30/8/2020
9. Aims o	of the Course

Understanding the meaning of Amines and their derivatives, understanding carboxylic acids and their derivatives, understanding ketones, aldehydes and phenols, their nomenclatures, their reactions and preparations.

10. Learning Outcomes, Teaching ,Learning and Assessment Methode
A- Knowledge and Understanding A1. The ability to distinguish between primary, secondary and third Amines A2. The ability to distinguish between Aldehydes and ketones A3. The Ability to separate esters and carboxyl acids A4. A5.
A6.
B. Subject-specific skills B1. The ability to make proposals and solve problems B2. The ability to conclude and compare B3.
Teaching and Learning Methods
Electronic lectures using Google Meet
Assessment methods
2 Electronic activity
3 Electronic practical exam
4 Electronic oral exam
C. Thinking Skills
C1. C2. C3. C4.
Teaching and Learning Methods
Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Hand lability of work environment problems D2. Correct discrimination of problems and the ability to find solutions to them D3. Setting appropriate business standards

D4.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4		Carboxylic acids, their names, preparation methods and their interactions	Electronic lectures	Exam+ activity
2	4		Dicarboxylic acids and their names, methods of preparation and reactions	Electronic lectures	Exam+ activity
3	4		Methods of preparing carboxylic acid derivatives	Electronic lectures	Exam+ activity
4	4		The reactions of carboxylic acid derivatives	Electronic lectures	Exam+ activity
5	4		Phenols and how to name the compounds derived from them	Electronic lectures	Exam+ activity
6	4		Methods of preparation of phenols and their interactions	Electronic lectures	Exam+ activity
7	4		audit		
8	4		first month exam		
9	4		Aldehydes, their names and methods of preparation	Electronic lectures	Exam+ activity
10	4		Aldehydes reactions	Electronic lectures	Exam+ activity
11	4		Ketones, their name, how to prepare them	Electronic lectures	Exam+ activity
12	4		ketone interactions	Electronic lectures	Exam+ activity
13			Amines, their interactions, methods of preparation,	Electronic lectures	Exam+ activity
14			audit		
15			second month exam		

12. Infrastructure		
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER		
Special requirements (include for example workshops, periodicals, IT software, websites)		
Community-based facilities (include for example, guest Lectures , internship , field studies)		

13. Admissions		
Pre-requisites		
Minimum number of students		
Maximum number of students		

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Education for Women
2. University Department/Centre	Department of Chemistry
3. Course title/code	Inorganic Chemistry
4. Programme(s) to which it contributes	Bachelor of Chemistry
5. Modes of Attendance offered	In Class
6. Semester/Year	First semester/ Second Year
7. Number of hours tuition (total)	7 hours (4 theoretical + 3 Practical)
8. Date of production/revision of this Specification	10-10-2022
9. Aims of the Course	

a- To understand the principles of chemistry

b- To know the elements of the periodic table, their arrangement and distribution in cycles and groups

c- 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

d- To identify the most important compounds of the elements of the periodic table for each of the groups

10. Learning Outcomes, Teaching ,Learning and Assessment Methode
 A- Knowledge and UnderstandingA1. To familiarize the student with the concept of inorganic chemistry A2. The student will know how the elements 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
 A5. To familiarize the student with the importance and role of each element of the periodic table A6.
 B. Subject-specific skillsB1. Ability to work with information sources and inorganic chemistry books B2. The ability to distinguish between each group of the periodic table in terms of different properties
 B3. The ability to know the elements of each group of the periodic table in order B4. The ability to know the different compounds of different elements and their properties and how to distinguish between them B5. The ability to solve problems that accompany chemical reactions
Teaching and Learning Methods
 1- Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities
Assessment methods
 Daily paper and oral exams (5%). The monthly paper exams (20%). Reports on topics related to the given theoretical material (5%). Practical (10%). The final theoretical exam (50%).
6- Final practical exam (10%).
C. Thinking Skills C1. Ability to work with information sources and inorganic chemistry books C2. The ability to distinguish between each group of the periodic table in terms of different properties
C3. The ability to know the elements of each group of the periodic table in order C4. The ability to know the different compounds of different elements and their
properties and how to distinguish between them
Teaching and Learning Methods
 1- Lectures 2- Worksheets 3- Submitting studies from the Internet
4- Use of computers and their accessories 5- Laboratory activities

- 1- Daily paper and oral exams (5%).
- 2- The monthly paper exams (20%).
- 3- Reports on topics related to the given theoretical material (5%).
- 4- Practical (10%).
- 5- The final theoretical exam (50%).
- 6- Final practical exam (10%).
- D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Ability to work with information sources and inorganic chemistry books D2. The ability to distinguish between each group of the periodic table in terms of

 - different properties
 - D3. The ability to know the elements of each group of the periodic table in order
 - D4. The ability to know the different compounds of different elements and their properties and how to distinguish between them
 - D5. The ability to solve problems that accompany chemical reactions

11. Course Structure									
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment 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, hydrogen bonding, hydrides	Lectures and the use of computers and accessories	Electronic, oral and practical exams				
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	Lectures and the use of computers and accessories	Electronic, oral and practical exams				

			compounds		
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 compounds of aluminum	Lectures and the use of computers and accessories	Electronic, oral and practical exams
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, their importance and uses	Lectures and the use of computers and accessories	Electronic, oral and practical exams
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	Electronic, oral and practical exams

				accessories	
14	4	knowledge and understanding	Chapter Nine: The elements of the seventh group, the halogens, their existence, analogues, methods of preparation, and their general characteristics	Lectures and the use of computers and accessories	Electronic, oral and practical exams
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

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	 Fundamentals of Inorganic Chemistry. General Inorganic Chemistry. General Concepts in Inorganic Chemistry. Duran't General Inorganic Chemistry. The Chemistry of Periodic Table Elements.
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in inorganic chemistry, elements, chemical compounds and periodic tables of the elements
Community-based facilities (include for example, guest Lectures, internship, field studies)	All inorganic chemistry books that deal with the basic concepts of inorganic chemistry.

13. Admissions					
Pre-requisites					
Minimum number of students					
Maximum number of students					

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Education for Women					
2. University Department/Centre	Department of Chemistry					
3. Programme Title	Inorganic Chemistry					
4. Title of Final Award	Bachelor of Chemistry					
5. Modes of Attendance offered	Face to Face					
6. Accreditation	Bachelor					
7. Other external influences						
8. Date of production/revision of	10-10-2022					
this specification						
9. Aims of the Programme						
a- To understand the principles of chemistry						

b- To know the elements of the periodic table, their arrangement and distribution in cycles and groups

c- 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

d- To identify the most important compounds of the elements of the periodic table for each of the groups

10. Learning Outcomes, Teaching, Learning and Assessment Methods
 A. Knowledge and Understanding A1. To familiarize the student with the concept of inorganic chemistry A2. The student will know how the elements 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 A5. To familiarize the student with the importance and role of each element of the periodic table A6.
 B. Subject-specific skills B1. Ability to work with information sources and inorganic chemistry books B2. The ability to distinguish between each group of the periodic table in terms of different properties
 B3. The ability to know the elements of each group of the periodic table in order B4. The ability to know the different compounds of different elements and their properties and how to distinguish between them B5. The ability to solve problems that accompany chemical reactions.
Teaching and Learning Methods
1 Leastures
1- Lectures 2- Worksheets
3- Submitting studies from the Internet
4- Use of computers and their accessories
5- Laboratory activities
Assessment methods
1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).
4- Practical (10%).
5- The final theoretical exam (50%).
6- Final practical exam (10%).
C. Thinking Skills C1. Ability to work with information sources and inorganic chemistry books C2. The ability to distinguish between each group of the periodic table in terms of different properties
C3. The ability to know the elements of each group of the periodic table in order C4. The ability to know the different compounds of different elements and their properties and how to distinguish between them
Teaching and Learning Methods
1- Lectures
2- Worksheets
3- Submitting studies from the Internet
4- Use of computers and their accessories
5- Laboratory activities

Г

- 1- Daily paper and oral exams (5%).
- 2- The monthly paper exams (20%).
- 3- Reports on topics related to the given theoretical material (5%).
- 4- Practical (10%).
- 5- The final theoretical exam (50%).
- 6- Final practical exam (10%).

 D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Ability to work with information sources and inorganic chemistry books D2. The ability to distinguish between each group of the periodic table in terms of different properties D3. The ability to know the elements of each group of the periodic table in order D4. The ability to know the different compounds of different elements and their properties and how to distinguish between them D5 The ability to solve problems that accompany chemical reactions 								
Teachir	ig and Learnir	ng Methods						
1- Lectu 2- Work 3- Subn 4- Use o 5- Labo	ares asheets nitting studies of computers a ratory activition	from the Internet and their accessories es						
1- Daily 2- The 1 3- Repo 4- Pract 5- The f 6- Final	 Assessment Methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6 Final practical exam (10%) 							
11. Program	me Structure							
Level/Year	ur Course or Module Credit rating 12. Awards and Credit							
2/2		Inorganic Chemistry Level 2	4 theoretical 3 practical	Bachelor Degree Requires (x) credits				

13. Personal Development Planning
14. Admission criteria.
15. Key sources of information about the programme

	Curriculum Skills Map																		
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
								Pr	ogra O	mme Jutco	Lear mes	ning							
Year / Level	Cours e Cod e	Cour se Title	Core (C) Title or Option (O)	H	Know and under ng	ledge rstand	li	S	Subje	ect- specif skills	ïc		Think	ing Sl	kills	Tra Oth e per	Gener nsferabl er skills mploya sonal de	al and leSkills releva bility a evelopr	(or) nt to nd nent
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
2/1		Inorganic Chemistr y	C	V	\checkmark		\checkmark	\checkmark	\checkmark		\checkmark	V		\checkmark		V	V	V	
																			-

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Education for Women					
2. University Department/Centre	Department of Chemistry					
3. Programme Title	English Language 2					
4. Title of Final Award	Bachelor of Chemistry					
5. Modes of Attendance offered	On-line					
6. Accreditation	Bachelor					
7. Other external influences						
8. Date of production/revision of 09-10-2022						
this specification						
9. Aims of the Programme						
a- To Learn Speaking English						
b- To understand and comprehend E	English speaking skills in general					
c- To communicate with foreigners and speak with them in English at all levels and fields of knowledge						
d- 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						

 A. Knowledge and Understanding A1. To familiarize the student with how to read words and sentences in English A2. To familiarize the student with the scientific terminology of the field of chemistry. To introduce the student to the concept of inorganic chemistry A3. 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 A4. That the student can communicate with professors and researchers in the field of specialization for several reasons and compounds of the elements of the periodic table A5. To familiarize the student with all that is new in the field of teaching and learning and the modern methods used in teaching and learning for the purpose of developing the day and personal ability
 Ao. B. Subject-specific skills B1. Ability to work with sources of information written in English B2. Ability to understand scientific publications written in English B3. The ability to speak English B4. The ability to know the developments and updates related to the vocabulary and terms of the modern English language that occur on an ongoing basis in the English language B5. The ability to develop scientific information and teaching skills by following up and reading all that is new in this field directly without the need to wait for these sources to be translated into Arabic
Teaching and Learning Methods
 1- lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Different classroom activities aimed at diversifying the learning resources
 1- lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Different classroom activities aimed at diversifying the learning resources Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- The activity of the student and her interaction with the lecture and the implementation of the various duties given (5%). 4- Writing various articles with the purpose of enhancing the ability to write various articles and reports (10%). 5- The final theoretical exam (60%).

all that is useful from these different and varied studies and experiences

Teaching and Learning Methods

- 1-lectures
- 2-Worksheets
- 3- Submitting studies from the Internet
- 4- Use of computers and their accessories
- 5- Different classroom activities aimed at diversifying the learning resources

Assessment methods

- 1- Daily paper and oral exams (5%).
- 2- The monthly paper exams (20%).
- 3- The activity of the student and her interaction with the lecture and the implementation of the various duties given (5%).
- 4- Writing various articles with the purpose of enhancing the ability to write various articles and reports (10%).
- 5- The final theoretical exam (60%).
- D. General and Transferable Skills (other skills relevant to employability and personal development)
 - D1. The student should be able to communicate and communicate using English as an international language
 - D2. The student should be able to read books and various foreign sources, as well as use modern laboratory equipment and electronic computers in the field of specialization
 - D3. The student should be able to communicate and communicate with others in the English language
 - D4. Ability to speak, read and write English
 - D5. The ability to develop self and educational skills through direct contact with information and sources without the need to localize sources and studies
 - Teaching and Learning Methods

1-lectures

- 2- Worksheets
- 3- Submitting studies from the Internet
- 4- Use of computers and their accessories
- 5- Different classroom activities aimed at diversifying the learning resources

- 1- Daily paper and oral exams (5%).
- 2- The monthly paper exams (20%).
- 3- The activity of the student and her interaction with the lecture and the implementation of the various duties given (5%).
- 4- Writing various articles with the purpose of enhancing the ability to write various articles and reports (10%).

5- The final theoretical exam (60%).									
11. Programme Structure									
Level/Year	12. Awards and Credits								
2/2	Course	English Language Level 2	2 theoretical	Bachelor Degree					
				Requires (x) credits					
13. Personal	l Development	t Planning							
14. Admiss	sion criteria.								
15. Key sources of information about the programme									
1- The textbook for teaching this subject.									
2- Different I 3- Various w	ebsites for uni	versities and institute	s specialize	d in teaching English to					
non-native	e speakers.			6 6					
4- Websites interested in teaching and teaching the English language.									

	Curricul um Skills Map																		
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
										Pr	ograi O	nme utco	Lear mes	ning					
Year / Lev	Cours e Cod e	Cours e Title	Core (C) Title or Option (O)	k	Know and under ng	ledge rstand	i	S	Subje	ct- specifi skills	ic		Think	ing Sk	ills	Tra Oth er	Gener nsferabl er skills mployal sonal de	al and eSkills relevan bility ar evelopn	(or) nt to nd nent
el				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
1/1		English Language 2	С	V		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Education college for women						
2. University Department/Centre	Department of chemistry						
3. Course title/code	Analytical chemistry						
4. Programme(s) to which it contributes	Bachelor of chemistry						
5. Modes of Attendance offered	On – line						
6. Semester/Year	Second semester / first year						
7. Number of hours tuition (total)	5 hours (2 theoretical + 3 practical						
8. Date of production/revision of this specification	10/10/2021						
9. Aims o	of the Course						
1.develop depth and bread	lth of chemistry knowledge,						
2. develop a wide range of la	aboratory and analytical skills,						
3. develop enhanced problem solving, research and communication skills.							
4. know of volumetric analysis.							
5. know of instrumental analysis							

10. Learning Outcomes, Teaching, Learning and Assessment Methods A. Knowledge and Understanding A1. Knowledge of the major aspects of chemical terminology and vocabulary A2. Knowledge and understanding of fundamental physicochemical principles A3. Knowledge of a range of inorganic and organic materials A4. Understanding of general synthetic pathways, including related isolation, purification and characterisation techniques A5. Awareness of issues within chemistry that overlap with other related disciplines A6. Knowledge of selected aspects of chemistry at the forefront of the discipline B. Subject-specific skills B1. Demonstrate skills in the safe-handling of chemical materials, taking into account their physical and chemical properties including any specific hazards associated with their use. B2. Conduct risk assessment B3. Operate standard chemical instrumentation **Teaching and Learning Methods** 1. Lectures. 2. Worksheets. 3. Laboratory activities. Assessment methods 1. Daily exams. 2. Monthly exams. 3. Practical: 4. Final exams. C. Thinking Skills C1. The ability to distinguish between neutralization and precipitation reactions. C2. The ability to distinguish between oxidation-reduction and complex formation reactions. C3. The ability to distinguish between classical and instrumental methods.

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	knowledge and understanding	Fundamental SI units and common unit prefixes; unit conversion	Lectures and the use of computers and accessories	Electronic, oral and practical exams
2	2	knowledge and understanding	Interpretation of simple chemical names and formula	Lectures and the use of computers and accessories	Electronic, oral and practical exams
3	2	knowledge and understanding	Calculation of molecular and formula masses	Lectures and the use of computers and accessories	Electronic, oral and practical exams
4	2	knowledge and understanding	Concentration calculations (molar, molal, mass, mole fraction, density)	Lectures and the use of computers and accessories	Electronic, oral and practical exams
5	2	knowledge and understanding	Balancing equations; stoichiometry & limiting reagent calculations	Lectures and the use of computers and accessories	Electronic, oral and practical exams
6	2	knowledge and understanding	Identification and balancing of acid-base, precipitation and redox reactions	Lectures and the use of computers and accessories	Electronic, oral and practical exams
7	2	knowledge and understanding	Formal oxidation numbers; identification of oxidant and reductant	Lectures and the use of computers and accessories	Electronic, oral and practical exams
8	2	knowledge and understanding	Definition of the equilibrium constant; relations between K, Q, and ΔG	Lectures and the use of computers and accessories	Electronic, oral and practical exams
9	2	knowledge and understanding	Basic principles of equilibrium calculations; combination of equilibria	Lectures and the use of computers and accessories	Electronic, oral and practical exams
10	2	knowledge and understanding	Acids and bases (Arrhenius, Brønsted- Lowry, and Lewis); acid & base strength	Lectures and the use of computers and accessories	Electronic, oral and practical exams
11	2	knowledge and understanding	Calculation of pH, Ka , Kb , and equivalence point in acid-base titrations	Lectures and the use of computers and accessories	Electronic, oral and practical exams

12	2	knowledge and understanding	Identification of buffers, calculation of buffer composition & pH	Lectures and the use of computers and accessories	Electronic, oral and practical exams
13	2	knowledge and understanding	Solubility, precipitation, Ksp, and solubility calculations	Lectures and the use of computers and accessories	Electronic, oral and practical exams
14	2	knowledge and understanding	Standard reduction potentials, electrodes and cells; the Nernst equation	Lectures and the use of computers and accessories	Electronic, oral and practical exams

12. Infrastructure							
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER							
Special requirements (include for example workshops, periodicals, IT software, websites)							
Community-based facilities (include for example, guest Lectures , internship , field studies)							

13. Admissions						
Pre-requisites						
Minimum number of students						
Maximum number of students						

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Education for Women					
2. University Department/Centre	Department of Chemistry					
3. Course title/code	English Language 2					
4. Programme(s) to which it contributes	Bachelor of Chemistry					
5. Modes of Attendance offered	On-Line					
6. Semester/Year	Second semester/ Second Year					
7. Number of hours tuition (total)	2 hours (2 theoretical + 0 Practical)					
8. Date of production/revision of this Specification	09-10-2022					
9. Aims of the Course						
a- To Learn Speaking English						
b- To understand and comprehend English	h speaking skills in general					
c- To communicate with foreigners and sp fields of knowledge	peak with them in English at all levels and					
d- 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						

10. Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

- A1. To familiarize the student with how to read words and sentences in English
- A2. To familiarize the student with the scientific terminology of the field of chemistry. To introduce the student to the concept of inorganic chemistry
- A3. 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
- A4. That the student can communicate with professors and researchers in the field of specialization for several reasons and compounds of the elements of the periodic table
- A5. To familiarize the student with all that is new in the field of teaching and learning and the modern methods used in teaching and learning for the purpose of developing the day and personal ability

A6 .

B. Subject-specific skills

- B1. Ability to work with sources of information written in English
- B2. Ability to understand scientific publications written in English
- B3. The ability to speak English
- B4. The ability to know the developments and updates related to the vocabulary and terms of the modern English language that occur on an ongoing basis in the English language

B5. The ability to develop scientific information and teaching skills by following up and reading all that is new in this field directly without the need to wait for these sources to be translated into Arabic

Teaching and Learning Methods

1-lectures

- 2- Worksheets
- 3- Submitting studies from the Internet
- 4- Use of computers and their accessories
- 5- Different classroom activities aimed at diversifying the learning resources

- 1- Daily paper and oral exams (5%).
- 2- The monthly paper exams (20%).
- 3- The activity of the student and her interaction with the lecture and the implementation of the various duties given (5%).
- 4- Writing various articles with the purpose of enhancing the ability to write various articles and reports (10%).
- 5- The final theoretical exam (60%).
- C. Thinking Skills
- C1. Ability to work with information sources and inorganic chemistry books
- C2. The ability to distinguish between each group of the periodic table in terms of different properties
- C3. The ability to know the elements of each group of the periodic table in order
- C4. The ability to know the different compounds of different elements and their properties and how to distinguish between them

Teaching and Learning Methods

- 1-lectures
- 2-Worksheets
- 3- Submitting studies from the Internet
- 4- Use of computers and their accessories
- 5- Different classroom activities aimed at diversifying the learning resources

Assessment methods

- 1- Daily paper and oral exams (5%).
- 2- The monthly paper exams (20%).
- 3- The activity of the student and her interaction with the lecture and the implementation of the various duties given (5%).
- 4- Writing various articles with the purpose of enhancing the ability to write various articles and reports (10%).
- 5- The final theoretical exam (60%).
- D. General and Transferable Skills (other skills relevant to employability and
 - personal development) D1. The student should be able to communicate and communicate using English as an international language
 - D2. The student should be able to read books and various foreign sources, as well as use modern laboratory equipment and electronic computers in the field of specialization
 - D3. The student should be able to communicate and communicate with others in the English language
 - D4. Ability to speak, read and write English

D5. The ability to develop self and educational skills through direct contact with information and sources without the need to localize sources and studies

11. Cour	11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method	
1	2	knowledge and understanding	Chapter one: International Student	Lectures and the use of computers and accessories	Electronic, oral and practical exams	
2	2	knowledge and understanding	Chapter two: Where in the world	Lectures and the use of computers and accessories	Electronic, oral and practical exams	
3	2	knowledge and understanding	Chapter three: Newspaper Articles	Lectures and the use of computers and accessories	Electronic, oral and practical exams	
4	2	knowledge and	Chapter four:	Lectures and	Electronic, oral and	

		understanding	Modern Technology	the use of computers and accessories	practical exams
5	2	knowledge and understanding	Chapter five: Conferences and Visits	Lectures and the use of computers and accessories	Electronic, oral and practical exams
6	2	knowledge and understanding	Chapter six: Science and our World	Lectures and the use of computers and accessories	Electronic, oral and practical exams
7	2	knowledge and understanding	Chapter seven: People past and present	Lectures and the use of computers and accessories	Electronic, oral and practical exams
8	2	knowledge and understanding	Chapter seven: People past and present	Lectures and the use of computers and accessories	Electronic, oral and practical exams
9	2	knowledge and understanding	Chapter eight: The world of IT	Lectures and the use of computers and accessories	Electronic, oral and practical exams
10	2	knowledge and understanding	Chapter eight: The world of IT	Lectures and the use of computers and accessories	Electronic, oral and practical exams
11	2	knowledge and understanding	Chapter nine: Inventions, Discoveries and Processes	Lectures and the use of computers and accessories	Electronic, oral and practical exams
12	2	knowledge and understanding	Chapter nine: Inventions, Discoveries and Processes	Lectures and the use of computers and accessories	Electronic, oral and practical exams
13	2	knowledge and understanding	Chapter ten: Travel and Tourism	Lectures and the use of computers and accessories	Electronic, oral and practical exams

14	2	knowledge and	Chapter ten:	Lectures and	Electronic, oral and
		understanding	Troval and Touriam	the use of	practical exams
			Travel and Tourism	computers and	
				accessories	

12. Infrastructure		
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Headway Level 2 Oxford University Student Book	
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in learning English language	
Community-based facilities (include for example, guest Lectures , internship , field studies)		

13. Admissions		
Pre-requisites		
Minimum number of students		
Maximum number of students		

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Education for Women	
2. University Department/Centre	Department of Chemistry	
3. Programme Title	Physical Chemistry	
4. Title of Final Award	Bachelor of Chemistry	
5. Modes of Attendance offered	On-line	
6. Accreditation	Bachelor	
7. Other external influences		
8. Date of production/revision of	26-02-2021	
this specification		
9. Aims of the Programme		
To familiarize the student with gas laws		
Determine the difference between a real gas and an ideal gas		
To understand the laws of thermodynamics		
To familiarize the student with the basics of thermodynamics		

10. Learning Outcomes, Teaching, Learning and Assessment Methods	
 A. Knowledge and Understanding A1. To familiarize the student with the concept of Physical chemistry A2. The student will know gas and an ideal gas. A3. Understand the properties of gas 	
A4. To familiarize the student with the most important properties, interactions and compounds of gas.	
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 laboratoryB4. The ability to communicate and communicate with others in the work	
B5 Teamwork ability	
Teaching and Learning Methods	
1- Lectures	
2- Worksheets	
3- Submitting studies from the Internet	
4- Use of computers and their accessories	
5- Laboratory activities	
Assessment methods	
1- Daily paper and oral exams (5%).	
2- The monthly paper exams (20%).	
3- Reports on topics related to the given theoretical material (5%).	
4- Practical (10%).	
5- The final theoretical exam (50%).	
6- Final practical exam (10%).	
Teaching and Learning Methods	
1- Lectures	
2-Worksheets	
3- Submitting studies from the Internet	
4- Use of computers and their accessories	
5- Laboratory activities	
Assessment methods	
1- Daily paper and oral exams (5%).	
2- The monthly paper exams (20%).	
3- Reports on topics related to the given theoretical material (5%).	
4- Practical (10%) .	
5- The final theoretical exam (50%).	
o- Final practical exam (10%).	
D. General and Transferable Skills (other skills relevant to employability and	
--	
personal development)	
D1. To familiarize the student with the concept of Physical chemistry	
D2. The student will know gas and an ideal gas.	
D3. Understand the properties of gas	
compounds of gas.	
Teaching and Learning Methods	
1- Lectures	
2- Worksheets	
3- Submitting studies from the Internet	
4- Use of computers and their accessories	
5- Laboratory activities	
Assessment Methods	
1- Daily paper and oral exams (5%).	
2- The monthly paper exams (20%).	
3- Reports on topics related to the given theoretical material (5%).	

4- Practical (10%).

5- The final theoretical exam (50%).

11. Program	me Structure			
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
2/2		Physical Chemistry Level 2	4 theoretical 3 practical	Bachelor Degree Requires (x) credits

	riculum Skills Map																		
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Course Level		Course Title	Core (C) Title or Option (O)	K ı	Inowle	edge ar standin	nd 1g	S	ubjec sl	t-speci kills	fic	r	Fhinkir	ng Skill	S	Gen Sk rele	eral and ills (or) vant to e personal	Transfer Other sk mployab develop	rable ills oility ment
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
2/1		Physical Chemistry	С	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Education for Women						
2. University Department/Centre	Department of Chemistry						
3. Course title/code	Physical Chemistry						
4. Programme(s) to which it contributes	Bachelor of Chemistry						
5. Modes of Attendance offered	On-line						
6. Semester/Year	First semester/ Second Year						
7. Number of hours tuition (total)	7 hours (4 theoretical + 3 Practical)						
8. Date of production/revision of this specification	04-01-2021						
9. Aims of the Course							
a- To understand the principles of chemist	ry						
b- To know the elements of the periodic ta cycles and groups	able, their arrangement and distribution in						
c- Knowing the properties of the gas, their extracting them.	interactions, the methods of preparing or						
 To identify the most important gas of the elements of the periodic table for each of the groups 							

10. Learning Outcomes, Teaching ,Learning and Assessment Methode 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 B. Subject-specific skillsB1. Ability to work with information sources and inorganic chemistry books B2. The ability to distinguish between gases in terms of different properties B3. The ability to know the elements of each group of the gas B4. The ability to know the different compounds of different elements and their properties and how to distinguish between them B5. The ability to solve problems that accompany chemical gas reactions **Teaching and Learning Methods** 1- Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%). C. Thinking Skills C1. Ability to work with information sources and inorganic chemistry books C2. The ability to distinguish between each group of the periodic table in terms of different properties C3. The ability to know the elements of each group of the periodic table in order C4. The ability to know the different compounds of different elements and their properties and how to distinguish between them **Teaching and Learning Methods** 1- Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%).

11. Course Structure											
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method						
1	4	knowledge and understanding	General properties of gases								
2	4	knowledge and understanding	Kinetic theory of ideal gases								
3	4	knowledge and understanding	real gases								
4	4	knowledge and understanding	Van Dervals equation								
5	4	knowledge and understanding	Mean free path and particle velocities								
6	4	knowledge and understanding	The first law of thermodynamics								
7	4	knowledge and understanding	Comprehensive properties and concentrated properties								
8	4	knowledge and understanding	changes in entropy								
9	4	knowledge and understanding	The third law and its general form								
10	4	knowledge and understanding	Finding entropy by thermal methods								
11	4	knowledge and understanding	Calculation of the entropy of a mixture of gases								
12	4	knowledge and understanding	Free energy and chemical equilibrium								
13	4	knowledge and understanding	Basic Equations for Closed Systems								
14	4	knowledge and understanding	The effect of temperature and pressure on free energy								
15	4	knowledge and understanding	Thermodynamic quantities in a mixture of ideal gases								
16	4	knowledge and understanding	Kinetic theory of ideal gases								

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Physical Chemistry - Dr. Nouri Khalifa Fayyad Physical Chemistry - Dr. Muslim Abd
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in inorganic chemistry, elements, chemical compounds and periodic tables of the elements
Community-based facilities (include for example, guest Lectures , internship , field studies)	All inorganic chemistry books that deal with the basic concepts of inorganic chemistry.

13. Admissions						
Pre-requisites						
Minimum number of students						
Maximum number of students						

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Education for Women
2. University Department/Centre	Department of Chemistry
3. Programme Title	Physical Chemistry
4. Title of Final Award	Bachelor of Chemistry
5. Modes of Attendance offered	On-line
6. Accreditation	Bachelor
7. Other external influences	
8. Date of production/revision of	26-02-2021
this specification	
9. Aims of the Programme	
To familiarize the student with gas laws	
Determine the difference between a real gas a	nd an ideal gas
To understand the laws of thermodynamics	
To familiarize the student with the basics of the	nermodynamics

10. Learning Outcomes, Teaching, Learning and Assessment Methods
 A. Knowledge and Understanding A1. To familiarize the student with the concept of Physical chemistry A2. The student will know gas and an ideal gas. A3. Understand the properties of gas
and compounds of gas.
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
B5 Teamwork ability
Teaching and Learning Methods
1- Lectures
2- Worksheets
3- Submitting studies from the Internet
4- Use of computers and their accessories
5- Laboratory activities
Assessment methods
1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).
4- Practical (10%).
5- The final theoretical exam (50%).
6- Final practical exam (10%).
Teaching and Learning Methods
1- Lectures
2-Worksheets
3- Submitting studies from the Internet
4- Use of computers and their accessories
5- Laboratory activities
Assessment methods
1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).
$4- \operatorname{Practical}(10\%).$
5- The final theoretical exam (50%) .
6- Final practical exam (10%).

D. General and Transferable Skills (other skills relevant to employability and
personal development)
D1. To familiarize the student with the concept of Physical chemistry
D2. The student will know gas and an ideal gas.
D3. Understand the properties of gas
compounds of gas.
Teaching and Learning Methods
1- Lectures
2- Worksheets
3- Submitting studies from the Internet
4- Use of computers and their accessories
5- Laboratory activities
Assessment Methods
1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).

4- Practical (10%).

5- The final theoretical exam (50%).

11. Program	me Structure			
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
2/2		Physical Chemistry Level 2	4 theoretical 3 practical	Bachelor Degree Requires (x) credits

	riculum Skills Map																		
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Course Level		Course Title	Core (C) Title or Option (O)	K ı	Inowle	edge ar standin	nd 1g	S	ubjec sl	t-speci kills	fic	r	Fhinkir	ng Skill	S	Gen Sk rele	eral and ills (or) vant to e personal	Transfer Other sk mployab develop	rable ills oility ment
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
2/1		Physical Chemistry	С	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Education for Women
2. University Department/Centre	Department of Chemistry
3. Course title/code	Physical Chemistry
4. Programme(s) to which it contributes	Bachelor of Chemistry
5. Modes of Attendance offered	On-line
6. Semester/Year	First semester/ Second Year
7. Number of hours tuition (total)	7 hours (4 theoretical + 3 Practical)
8. Date of production/revision of this specification	04-01-2021
9. Aims of the Course	
a- To understand the principles of chemist	ry
b- To know the elements of the periodic ta cycles and groups	able, their arrangement and distribution in
c- Knowing the properties of the gas, their extracting them.	interactions, the methods of preparing or
d- To identify the most important gas of the groups	ne elements of the periodic table for each of

10. Learning Outcomes, Teaching ,Learning and Assessment Methode 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 B. Subject-specific skillsB1. Ability to work with information sources and inorganic chemistry books B2. The ability to distinguish between gases in terms of different properties B3. The ability to know the elements of each group of the gas B4. The ability to know the different compounds of different elements and their properties and how to distinguish between them B5. The ability to solve problems that accompany chemical gas reactions **Teaching and Learning Methods** 1- Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%). C. Thinking Skills C1. Ability to work with information sources and inorganic chemistry books C2. The ability to distinguish between each group of the periodic table in terms of different properties C3. The ability to know the elements of each group of the periodic table in order C4. The ability to know the different compounds of different elements and their properties and how to distinguish between them **Teaching and Learning Methods** 1- Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%).

11. Cou	rse Structu	ıre			
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4	knowledge and understanding	General properties of gases		
2	4	knowledge and understanding	Kinetic theory of ideal gases		
3	4	knowledge and understanding	real gases		
4	4	knowledge and understanding	Van Dervals equation		
5	4	knowledge and understanding	Mean free path and particle velocities		
6	4	knowledge and understanding	The first law of thermodynamics		
7	4	knowledge and understanding	Comprehensive properties and concentrated properties		
8	4	knowledge and understanding	changes in entropy		
9	4	knowledge and understanding	The third law and its general form		
10	4	knowledge and understanding	Finding entropy by thermal methods		
11	4	knowledge and understanding	Calculation of the entropy of a mixture of gases		
12	4	knowledge and understanding	Free energy and chemical equilibrium		
13	4	knowledge and understanding	Basic Equations for Closed Systems		
14	4	knowledge and understanding	The effect of temperature and pressure on free energy		
15	4	knowledge and understanding	Thermodynamic quantities in a mixture of ideal gases		
16	4	knowledge and understanding	Kinetic theory of ideal gases		

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Physical Chemistry - Dr. Nouri Khalifa Fayyad Physical Chemistry - Dr. Muslim Abd
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in inorganic chemistry, elements, chemical compounds and periodic tables of the elements
Community-based facilities (include for example, guest Lectures , internship , field studies)	All inorganic chemistry books that deal with the basic concepts of inorganic chemistry.

13. Admissions					
Pre-requisites					
Minimum number of students					
Maximum number of students					

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Education for Women					
2. University Department/Centre	Department of Chemistry					
3. Program Title	Physics					
4. Title of Final Award	Bachelor of Chemistry					
5. Modes of Attendance offered	On-line (1997)					
6. Accreditation	Bachelor					
7. Other external influences						
8. Date of production/revision of	04-01-2022					
this specification						
9. Aims of the Program						
a- To understand the principles of Physics						
b- To know how fo	ormulate the equations in Physics					
c- Describe the movement of bodies and calculate their Displacement, velocity and acceleration						
d- To identify Laws of mechanic which control our live						
e- Set mathematical models of the real world						

10. Learning Outcomes, Teaching, Learning and Assessment Methods A. Knowledge and Understanding A1. To familiarize the student with the concept of physics A2. The student will know how the moving in real world A3. Understand how to make simple assumptions A4. To familiarize the student with the applying the most important laws of physics B. Subject-specific skills B1. Ability to solve problems in physics B2. The ability to make connections between mathematics and physics B3. The ability to derive the complex laws in mechanic B4. Decide whether your results make sense, preferably by checking them against some real data B5. Make a list of the assumptions you need to make to simplify the situation to the point where you can apply mathematics to it. **Teaching and Learning Methods** 1-Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- my youtube Chanel Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%). C. Thinking Skills C1. Ability to work with information sources and physics books C2. The ability Make a list of the quantities involved C3.Set up your equations and solve them **Teaching and Learning Methods** 1- Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities Assessment methods

1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).
4- Practical (10%).
5- The final theoretical exam (50%).
6- Final practical exam (10%).

D. Gen	D. General and Transferable Skills (other skills relevant to employability and								
personal development) D1. Ability to work with information sources and physics books D2. Make a list of the assumptions you need to make to simplify the situation to the point where you can apply mathematics to it. D3. Make a list of the quantities involved. D4. Find out any information you require such as safe stopping distances or a value for the acceleration D5. Set up your equations and solve them									
		Teaching and Lear	ning Metho	ds					
1- Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities									
		Assessment 1	Methods						
 Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%) 									
	11. Progr	amme Structure							
Level/Year	Course or Module Code	Course or Module Title	12. Awards and Credits						
2/2		Physics Level 14 theoretical 3 practicalBachelor DegreeImage: Bachelor DegreeRequires (x) credits							



	Curriculum Skills Map																		
	please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																		
					Programme Learning Outcomes														
Year/ Level	Course Code	Course Title	Core (C) Title or Option (O)	K ı	Inowle unders	edge an standir	nd 1g	S	ubjec	t-speci skills	fic		Thin	king Sk	cills	Gen Sk relev and	eral and ' ills (or) (vant to er personal	Fransfer Other ski nployab develop	able ills ility ment
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
2/1		Physics	С						\checkmark	\checkmark	\checkmark			\checkmark	\checkmark		\checkmark	\checkmark	\checkmark

Teaching and Learning Methods 1- Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%). C. Thinking Skills C1. Ability to work with information sources and physics books C2. The ability to distinguish between each group of the periodic table in terms of different properties C3. The ability to know the elements of each group of the periodic table in order C4. The ability to know the different compounds of different elements and their properties and how to distinguish between them **Teaching and Learning Methods** 1-Lectures 2-Worksheets

2- Worksheets3- Submitting studies from the Internet4- Use of computers and their accessories

5- Laboratory activities

Assessment methods

1- Daily paper and oral exams (5%).

2- The monthly paper exams (20%).

3- Reports on topics related to the given theoretical material (5%).

4- Practical (10%).

5- The final theoretical exam (50%).

11. Course Structure								
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method			
1	2	knowledge and understanding	Chapter One: The Movement of objects in real world	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
2	2	knowledge and understanding	Chapter Two: Formulate the laws of movement and velocity	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
3	2	knowledge and understanding	Chapter Three: present directional quantities by graph	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
4	2	knowledge and understanding	Chapter Four: Acceleration and constant speed	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
5	2	knowledge and understanding	Chapter Five: Vertical Moving and ground gravity	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
6	2	knowledge and understanding	Boron halides, complex compounds of aluminum	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
7	2	knowledge and understanding	Chapter Six: Finding the area under speed– time graphs	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
8	2	knowledge and understanding	The constant acceleration formulae	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
9	2	knowledge and understanding	Chapter Seven: Forces and Newton's laws of motion	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
10	2	knowledge and understanding	Chapter Seven– First Law and its applications	Lectures and the use of computers and accessories	Electronic, oral and practical exams			
11	2	knowledge and	Chapter Seven: Second Law and its Application	Lectures and	Electronic, oral and			

		understanding		the use of	practical exams
				computers and	
				accessories	
12	2	knowledge and understanding	Chapter Seven: Third law and its application	Lectures and the use of computers and accessories	Electronic, oral and practical exams
13	2	knowledge and understanding	Chapter Seven : Pulley	Lectures and the use of computers and accessories	Electronic, oral and practical exams
14	2	knowledge and understanding	Chapter Seven: Tension And Thurst	Lectures and the use of computers and accessories	Electronic, oral and practical exams
15	2	knowledge and understanding	Chapter Seven:Relating mass and weight	Lectures and the use of computers and accessories	Electronic, oral and practical exams
16	2	knowledge and understanding	Reviewing a mathematical model: air resistance	Lectures and the use of computers and accessories	Electronic, oral and practical exams

]	2. Infrastructure
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	 Fundamentals of Physics. 2- General Physics. 3- General Concepts in Physics. 4- Duran't General Physics. 5- The Chemistry of Periodic Table Elements.
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in physics, elements, chemical compounds and periodic tables of the elements
Community-based facilities (include for example, guest Lectures , internship , field studies)	All physics books that deal with the basic concepts of physics.

13. Admissions					
Pre-requisites					
Minimum number of students					
Maximum number of students					

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Anbar University						
2. University Department/Centre	Education college for women						
3. Course title/code	Biochemistry						
4. Programme(s) to which it contributes	Bachelor of chemistry						
5. Modes of Attendance offered							
6. Semester/Year	First semester/ third year						
7. Number of hours tuition (total)	60						
8. Date of production/revision of this specification	1/10/2022						
9. Aims o	of the Course						
Introducing the basic components of the body from carbohydrates, fats, proteins and nucleic acids. In addition to studying the types of vitamins and the daily need for them, as well as the sources of obtaining them.							

10. Learning Outcomes, Teaching ,Learning and Assessment Methode:
Lectures and worksheets
A- Knowledge and Understanding
A1. $\Delta 2$
A2. A3.
A4.
A5.
A6 .
B. Subject-specific skills
BI.
D2. D2
DJ.
Teaching and Learning Methods:
Use the discussion method and ask questions
Assessment methods
Fxams
Ouizzes
Oral
Reports
Reports
C. Thinking Skills
C1.
C3.
C4.
Teaching and Learning Methods:
Use the discussion method and ask questions
A accomment methods
Assessment methods

D. General and Transferable Skills (other skills relevant to employability and
personal development)
D1.
D2.
D3.
D4.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teachin g Method	Assessm ent Metho d
1	4		carbohydrate	lectures	Exam and quizes
2	4		Optical activity	lectures	Exam and quizes
3	4		disaccharides	lectures	Exam and quizes
4	4		Polysaccharides	lectures	Exam and quizes
5	4		Test's for sacchrides	lectures	Exam and quizes
6	4		Amino acids	lectures	Exam and quizes
7	4		peptides	Lectures	Exam and quizes
8	4		Chemical properties for amino acids proteins	lectures	Exam and quizes
9 10	4		Test's for lipids	lectures	Exam and quizes
11	4		enzymes	lectures	Exam and quizes
12	4		Water soluble	lectures	Exam and quizes
13	4		Fat soluble vitemine	lectures	Exam and quizes
14	4		Nucleic acids	lectures	Exam and quizes

12. Infrastructure								
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER								
Special requirements (include for example workshops, periodicals, IT software, websites)								

(include for example, guest Lectures, internship, field studies)
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13. Admissions						
Pre-requisites						
Minimum number of students						
Maximum number of students						

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Education for Women					
2. University Department/Centre	Department of Chemistry					
3. Program Title	Mathematics					
4. Title of Final Award	Bachelor of Chemistry					
5. Modes of Attendance offered	On-line					
6. Accreditation	Bachelor					
7. Other external influences						
8. Date of production/revision of	04-01-2022					
this specification						
9. A	ims of the Program					
a- To understand	the principles of Mathematics					
b- To know how form	nulate the equations in Mathematics					
c- Describe the	phenomenon by Calculus law					
d- To identify Logic of math						
e- Set mathematical models of the real world						

10. Learning Outcomes, Teaching, Learning and Assessment Methods A. Knowledge and Understanding A1. To familiarize the student with the concept of Mathematics A2. The student will know how the moving in real world A3. Understand how to make simple assumptions A4. To familiarize the student with the applying the most important laws of **Mathematics** B. Subject-specific skills B1. Ability to solve problems in Mathematics B2. The ability to make connections between mathematics and other fields of science B3. The ability to derive the complex equations B4. Decide whether your results make sense, preferably by checking them against some real data B5. Make a list of the assumptions you need to make to simplify the situation to the point where you can apply mathematics to it. **Teaching and Learning Methods** 1-Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- my youtube Chanel Assessment methods 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%). C. Thinking Skills C1. Ability to work with information sources and Mathematics books Č2. The ability Make a list of the quantities involved C3.Set up your equations and solve them **Teaching and Learning Methods** 1-Lectures 2-Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities Assessment methods

1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).
4- Practical (10%).
5- The final theoretical exam (50%).
6- Final practical exam (10%).

 D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Ability to work with information sources and Mathematics books D2. Make a list of the assumptions you need to make to simplify the situation to the point where you can apply mathematics to it. D3. Make assumptions to solve problems in another knowledges 										
Teaching and Learning Methods										
1- Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories										
		Assessment N	Methods							
 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%). 										
	11. Progr	amme Structure								
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits						
1/2		Bachelor Degree Requires (x) credits								



	Curriculum Skills Map																		
	please tick in the relevant boxes where individual Program Learning Outcomes are being assessed																		
				Program Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	K ı	inowle unders	edge an standir	nd 1g	S	ubjec	t-speci skills	fic Thinking Skills			General and Transferable Skills (or) Other skills relevant to employability and personal development					
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
1/1		Mathemati cs	С	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

Teaching and Learning Methods

1- Lectures
 2- Worksheets
 3- Submitting studies from the Internet
 4- Use of computers and their accessories

5- Laboratory activities

Assessment methods

1- Daily paper and oral exams (5%).
 2- The monthly paper exams (20%).

3- Reports on topics related to the given theoretical material (5%).

4- Practical (10%).

5- The final theoretical exam (50%).

6- Final practical exam (10%).

C. Thinking Skills

C1. Ability to work with information sources and Mathematics books C2. The ability to distinguish between each group of the periodic table in terms of different properties C3. The ability to know the elements of each group of the periodic table in order

C4. The ability to know the different compounds of different elements and their properties and how to distinguish between them

Teaching and Learning Methods

1- Lectures 2- Worksheets

3- Submitting studies from the Internet

4- Use of computers and their accessories

5- Laboratory activities

Assessment methods

1- Daily paper and oral exams (5%).

2- The monthly paper exams (20%).

3- Reports on topics related to the given theoretical material (5%).

4- Practical (10%).

5- The final theoretical exam (50%).

11. Course Structure										
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method					
1	2	knowledge and understanding	Chapter One: Functions	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
2	2	knowledge and understanding	Chapter Two: Limits and Continuity	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
3	2	knowledge and understanding	Chapter Three: Derivatives	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
4	2	knowledge and understanding	Chapter Derivatives of transcendental Functions	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
5	2	knowledge and understanding	Chapter Five: Role and Mean value problems	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
6	2	knowledge and understanding	Maximum and Minimum value problems	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
7	2	knowledge and understanding	Chapter Six Applications of derivatives	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
8	2	knowledge and understanding	Chapter Seven: Integration	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
9	2	knowledge and understanding	Chapter Seven: fundamental Theorems in Integration	Lectures and the use of computers and accessories	Electronic, oral and practical exams					
10	2	knowledge and understanding	Chapter Seven– Properties of integration	Lectures and the use of computers and	Electronic, oral and practical exams					

11	2	knowledge and understanding	Chapter Seven: Integration of transcendental functions	accessories Lectures and the use of computers and accessories	Electronic, oral and practical exams
12	2	knowledge and understanding	Chapter Seven: Applications of integration	Lectures and the use of computers and accessories	Electronic, oral and practical exams

12. Infrastructure				
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	 Fundamentals of Mathematics. 2- General Mathematics. 3- General Concepts in Mathematics. 4 			
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in Mathematics,			
Community-based facilities (include for example, guest Lectures , internship , field studies)	All Mathematics books that deal with the basic concepts of Mathematics.			

13. Admissions			
Pre-requisites			
Minimum number of students			
Maximum number of students			
HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research			
2. University Department/Centre	College of Education For Women/ University of Anbar			
3. Course title/code	Chemistry			
4. Programme(s) to which it contributes	Google classroom, Google Meet			
5. Modes of Attendance offered	Electronic lectures			
6. Semester/Year	Third stage			
7. Number of hours tuition (total)	90			
8. Date of production/revision of this specification	1/10/2020			
9. Aims o	of the Course			
Course objectives: Identify industry and types of industries in terms of origin and nature, learn about ra materials, learn about industrial chemistry and its branches, in addition to identifyin the preparation of many compounds (oils, soap, glass, ceramics, cement and fertilizers)				
	•			

10. Learning Outcomes, Teaching ,Learning and Assessment Methode
 A- Knowledge and Understanding A1. The ability to distinguish between primary, secondary and third Amines A2. The ability to distinguish between Aldehydes and ketones A3. The Ability to separate esters and carboxyl acid
B. Subject-specific skills B1. The ability to make proposals and solve problems B2. The ability to conclude and compare
Teaching and Learning Methods
Electronic lectures using Google Meet
Assessment methods
1 Midterm exem
2 Electronic activity
3 Flectronic practical exam
4 Electronic oral exam
5 Final attendance exam
C. Thinking Skills
C1: The ability to identify different types of industries C2: Ability to calculate profitability value for various industries C3: The ability to distinguish between types of glass by the characteristics of each type C4: The ability to distinguish between types of cement by knowing the characteristics of each type
C5: The ability to distinguish between types of fertilizers by knowing the characteristics of each type
Teaching and Learning Methods
Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development) D.1 Ability to deal with problems facing the industry D.2 Correct identification of corrosion problems and ways to eliminate them D.3 Evaluate, use and improve work mechanisms D.4 Determining appropriate work standards in order to establish a successful industry

10. Course Structure								
Week	Hours	ILO s	Unit/Module or Topic Title	Teaching Method	Assessment Method			
1	4		industrial chemistry	Electronic lectures	Exam+ activity			
2	4		Raw materials and their types and branches of industrial chemistry	Electronic lectures	Exam+ activity			
3	4		Industrial Economics and Profit Value Calculation	Electronic lectures	Exam+ activity			
4	4		Industrial processes in the chemical industry	Electronic lectures	Exam+ activity			
5	4		Transportation, cutting, crushing and grinding operations, separation operations, extraction process	Electronic lectures	Exam+ activity			
6	4		Crystallization process, filtration process and adsorption process	Electronic lectures	Exam+ activity			
7	4		The absorption process, the distillation process, the drying process, the mixing process, and the evaporation process, industrial chemical terms		Exam+ activity			
8	4		first month exam	Electronic lectures	Exam+ activity			
9	4		Polymer Chemistry, Classification of Polymers	Electronic lectures	Exam+ activity			
10	4 Basic properties of inorganic polymers		Electronic lectures	Exam+ activity				
11	4 S an		4 Synthesis of polymers and methods for finding molecular weight			Exam+ activity		
12	4		Fats, types of oils, a history of oils, sources and benefits of oils, composition of oils	Electronic lectures	Exam+ activity			
13	4		Sections of fatty acids, methods of preparing	Electronic	Exam+ activity			

		fatty acids, rancidity of oils, hydrogenation of oils	lectures	
14	4	Soap, theories that explain the work of soap, raw materials for the manufacture of soap	Electronic lectures	Exam+ activity
15	4	Raw materials for soap making, soap making methods, general notes for soap making from a scientific point of view	Electronic lectures	Exam+ activity
16	4	Cold process soap, semi- hot soap making, hot process soap, general characteristics of soap		Exam+ activity
17	4	second month exam	Electronic lectures	Exam+ activity

]	12. Infrastructure
Required course books:	Industrial chemistry book, written by Dr. Jawad Kazem, Dr. Salwa Abdel Qader Industrial chemistry and its raw materials, written by Dr. Ali Falih Ajam and Dr. Nabil Muhammad Ali Industrial Chemistry Written by Tariq Ismail Kakhia
Main references (sources)	Book of industrial chemistry, industrial and its raw materials
Community-based facilities (include for example, guest Lectures , internship , field studies)	scientific researches

13. Admissions					
Pre-requisites					
Minimum number of students					
Maximum number of students					

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably beexpected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course thatcontributes to the programme.

1. Teaching Institution	University of Anbar/College education for women
2. University Department/Centre	Chemistry
3. Programme Title	
	Physico-kinetic chemistry
4. Title of Final Award	Bachelor degree in Chemistry
5. Modes of Attendance offered	2019-2020
6. Accreditation	54 h
7. Other external influences	25/10/ 2020
8. Date of production/revision ofthis	Classroom
specification	

9. Aims of the Programme

A basic course for the female students of the Department of Chemistry aims to increase the students' scientific knowledge of physico-kinetic chemistry and what is related to the study of the speed and kinetics of chemical reactions and to determine the rank of chemical reactions 10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding A1. Study of kinetic chemistry related to the mechanics, speed, and order of chemical reactions, kinetic theories of reactions, mechanics of complex reactions, ionic strength, and electrochemistry: electrical conduction, electrical cell, electrodes, photochemistry, and photochemical reactions.

B. Subject-specific skills B1. Study of kinetic chemistry related to the mechanics, speed, and order of chemical reactions, kinetic theories of reactions, mechanics of complex reactions, ionic strength, and electrochemistry: electrical conduction, electrical cell, electrodes, photochemistry, and photochemical reactions.

Teaching and Learning Methods

Adopting the method of giving lectures and linking each topic with examples from the reality of the situation

2- Giving them some simple practical exercises that are discussed by the students and solving them during the lecture and with the participation of all the students in the division with the professor to give the material a kind of interaction.

Assessment methods

1- Through the participation of students in the lecture, based on their prior preparation of the subject.

2- Giving them (exercise) as a homework and asking them to solve it with separate papers to be collected from them in the next lecture.

3- Giving the students a case study and dividing the students into groups to write a report about that study.

4- Evaluation through monthly exams

C- Emotional and value goals.

C 1- Instilling values and principles in the student by emphasizing the independence of the statistician when expressing his impartial opinion

C2- Emphasis on the personal characteristics of the statistician, such as integrity, honesty, confidentiality and ethics.

C3- A statement of the importance of the rules of professional conduct for the statistician and his exposure to legal penalties in case of violation

C4- Emphasizing the importance of combating financial and administrative corruption by

statistical agencies.

Assessment methods

C-Emotional and value goals.

C 1- Instilling values and principles in the student by emphasizing the independence of the

statistician when expressing his impartial opinion

C2- Emphasis on the personal characteristics of the statistician, such as integrity, honesty,

confidentiality and ethics.

C3- A statement of the importance of the rules of professional conduct for the statistician and his exposure to legal penalties in case of violation

C4- Emphasizing the importance of combating financial and administrative corruption by

statistical agencies.

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

d- General and rehabilitative skills transferred (other skills related to employability and personal development).

D1- Encouraging students to be creative and create a spirit of perseverance and self-denial

through continuous encouragement of the need for joint and effective cooperation among them

to fulfill their academic requirements.

D2 - They were provided with the university's website related to the availability of future opportunities for recruitment and employment

D 3- To provide them with knowledge of the importance of developing their capabilities

through self-education by accessing various knowledge

D4 - Emphasis on the development of students' self-talents such as sports and arts of all kinds

in their spare time.

Teaching and Learning Methods

d- General and rehabilitative skills transferred (other skills related to employability and personal development).

- D1- Encouraging students to be creative and create a spirit of perseverance and selfdenial through continuous encouragement of the need for joint and effective cooperation among them to fulfill their academic requirements.
- D2 They were provided with the university's website related to the availability of future opportunities for recruitment and employment
 - D 3- To provide them with knowledge of the importance of developing their capabilities through self-education by accessing various knowledge
- D4 Emphasis on the development of students' self-talents such as sports and arts of

all kinds in their spare time. Assessment Methods d- General and rehabilitative skills transferred (other skills related to employability and personal development).

D1- Encouraging students to be creative and create a spirit of perseverance and self-denial

through continuous encouragement of the need for joint and effective cooperation among them

to fulfill their academic requirements.

D2 - They were provided with the university's website related to the availability of future

opportunities for recruitment and employment

D 3- To provide them with knowledge of the importance of developing their capabilities

through self-education by accessing various knowledge

D4 - Emphasis on the development of students' self-talents such as sports and arts of all kinds

in their spare time.

11. Progr			
Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
EWC 3305	Physico-kinetic chemistry	Credit hours practical 2 theory 3	Bachelor Degree Requires (x) credits
			Encouraging students to achieve the highest marks in the final stages of study at the college in order to be the first in order to achieve their future dreams of completing their studies in graduate studies
	11. Progr Course or Module Code EWC 3305	11. Programme StructureCourse or Module CodeCourse or Module TitleEWC 3305Physico-kinetic chemistryEWC 3305Image: Comparison of the second seco	11. Programme StructureCourse or Module CodeCourse or Module TitleCredit ratingEWC 3305Physico-kinetic chemistryCredit hours practical 2 theory 3EWC 3305Physico-kinetic chemistryCredit hours practical 2 theory 3Image: Descent of the structureImage: Descent of the structure

13. Personal Development Planning

Admission criterion (setting regulations related to joining the college or institute)

14. Admission criteria.

The standard to be followed is the student's (grade) score

But it is preferable to take into account (the desire of the student) to choose, even if it is

impossible to choose the college, but at least this is taken when choosing between departments

because it is a very important matter on which the future of the entire student depends.

15. Key sources of information about the programme

	Curriculum Skills Map																		
		please tic	k in the rele	elevant boxes where individual Programme Learning Outcomes are being assessed															
	Programme Learning Outcomes																		
Year / Leve	Cours e Code	Course Title	Core (C) Title or Opt	I	Know a under	vledge nd standi g	e in		Sul	oject- specifi skills	с		Thinl	cing Sl	cills	Tra Oth er per	Genera nsferable er skills mployab sonal de	al and Skills relevan pility an velopm	(or) it to d ent
1			ion (O)	A1	A2	A3	A4	B 1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
.1 • 11 1																			
third level	EWC 3305	p <i>h</i> ysical	Basic																
		chemistry																	

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Anbar/College education for women
2. University Department/Centre	Chemistry
3. Course title/code	Physico-kinetic chemistry
4. Programme(s) to which it contributes	Bachelor degree in Chemistry
5. Modes of Attendance offered	2019-2020
6. Semester/Year	54 h
7. Number of hours tuition (total)	25/10/ 2020
8. Date of production/revision of this specification	Classroom
9. Aims o	of the Course

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A- Cognitive goals

1- Understand the nature of kinetic chemistry related to mechanics

2- Distinguish between all branches of physical chemistry

3- Distinguishing between physical chemistry and other disciplines of chemistry

B. Subject-specific skills

Study of kinetic chemistry related to the mechanics, speed, and order of chemical reactions,

kinetic theories of reactions, mechanics of complex reactions, ionic strength, and

electrochemistry: electrical conduction, electrical cell, electrodes, photochemistry, and

photochemical reactions.

Teaching and Learning Methods

1-Adopting the method of giving lectures and linking each topic with examples from the reality of the work situation.

2- Giving them some simple practical exercises that are being discussed by the students and solved

during the lecture, with the participation of all the students in the division with the professor to give the

material a kind of interaction.

3- Presenting some practical cases.

Assessment methods

C. Thinking Skills

C 1- Instilling values and principles in the student

C 2 - Emphasis on personal characteristics such as integrity, honesty, confidentiality and morals.

C3 - Statement of the importance of the rules of professional conduct and its exposure to legal penalties in case of violation

C4- Emphasizing the importance of fighting financial and administrative corruption

Teaching and Learning Methods

Adopting the method of giving lectures and linking each topic with examples from the reality of the situation.

2- Giving them some simple practical exercises that are discussed by the students and solving them during the lecture and with the participation of all the students in the division with the professor to

give the material a kind of interaction.

Assessment methods

1- Through the participation of students in the lecture, based on their prior preparation of the subject.

2- Giving them an (exercise) as it is a homework and asking for it to be solved with separate papers

to be collected from them in the next lecture.

3- Giving the students a case study and dividing the students into groups to write a report about that

study.

4- Evaluation through monthly exams.

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

D1- Encouraging students to be creative and create a spirit of perseverance and self-denial through continuous encouragement of the need for joint and effective cooperation among them to achieve their academic requirements D2 - They were provided with the university's website related to the availability of future opportunities for recruitment and employment D 3- To provide them with knowledge of the importance of developing their capabilities through self-education by accessing various knowledge D4 - Emphasis on the development of students' self-talents, such as sports and arts of all kinds in their spare time

	11. Course Structure								
Week	Hours	ILOs	Unit/Module orTopic Title	Teaching Method	Assessment Method				
16	54		Physico-kinetic						
		General	chemistry	give lectures	Exam				
		understanding of			my class				
		understanding of			my clubs				
		physico-kinetic							
		chemistry							

	12. Infrastructure
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	

Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

	13. Admissions
Pre-requisites	
-	Recommended books and references (scientific journals,
	ver erts)
	reports)
Minimum number of students	
	Arabic articles issued by academic and professional bodies
Maximum number of students	
	Attempting to link study topics to actual work through field
	visits

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably beexpected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course thatcontributes to the programme.

1. Teaching Institution	University of Anbar/College education for women
2. University Department/Centre	Chemistry
3. Programme Title	Electro physical chemistry
4. Title of Final Award	Bachelor degree in Chemistry
5. Modes of Attendance offered	2019-2020
6. Accreditation	54 h
7. Other external influences	25/10/ 2020
8. Date of production/revision ofthis	Classroom
specification	

9. Aims of the Programme

Study of kinetic chemistry related to the mechanics, speed, and order of chemical reactions,

kinetic theories of reactions, mechanics of complex reactions, ionic strength, and

electrochemistry: electrical conduction, electrical cell, electrodes, photochemistry, and

photochemical reactions.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding A1. Study of kinetic chemistry related to the mechanics, speed, and order of chemical reactions, kinetic theories of reactions, mechanics of complex reactions, ionic strength, and electrochemistry: electrical conduction, electrical cell, electrodes, photochemistry, and photochemical reactions.

B. Subject-specific skills B1. Study of kinetic chemistry related to the mechanics, speed, and order of chemical reactions, kinetic theories of reactions, mechanics of complex reactions, ionic strength, and electrochemistry: electrical conduction, electrical cell, electrodes, photochemistry, and photochemical reactions.

Teaching and Learning Methods

Adopting the method of giving lectures and linking each topic with examples from the reality of the situation

2- Giving them some simple practical exercises that are discussed by the students and solving them during the lecture and with the participation of all the students in the division with the professor to give the material a kind of interaction.

Assessment methods

1- Through the participation of students in the lecture, based on their prior preparation of the subject.

2- Giving them (exercise) as a homework and asking them to solve it with separate papers to be collected from them in the next lecture.

3- Giving the students a case study and dividing the students into groups to write a report about that study.

4- Evaluation through monthly exams

C- Emotional and value goals.

C 1- Instilling values and principles in the student by emphasizing the independence of the statistician when expressing his impartial opinion

C2- Emphasis on the personal characteristics of the statistician, such as integrity, honesty, confidentiality and ethics.

C3- A statement of the importance of the rules of professional conduct for the statistician and his exposure to legal penalties in case of violation

C4- Emphasizing the importance of combating financial and administrative corruption by

statistical agencies.

Assessment methods

C-Emotional and value goals.

C 1- Instilling values and principles in the student by emphasizing the independence of the

statistician when expressing his impartial opinion

C2- Emphasis on the personal characteristics of the statistician, such as integrity, honesty,

confidentiality and ethics.

C3- A statement of the importance of the rules of professional conduct for the statistician and his exposure to legal penalties in case of violation

C4- Emphasizing the importance of combating financial and administrative corruption by

statistical agencies.

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

d- General and rehabilitative skills transferred (other skills related to employability and personal development).

D1- Encouraging students to be creative and create a spirit of perseverance and self-denial

through continuous encouragement of the need for joint and effective cooperation among them

to fulfill their academic requirements.

D2 - They were provided with the university's website related to the availability of future opportunities for recruitment and employment

D 3- To provide them with knowledge of the importance of developing their capabilities

through self-education by accessing various knowledge

D4 - Emphasis on the development of students' self-talents such as sports and arts of all kinds

in their spare time.

Teaching and Learning Methods

d- General and rehabilitative skills transferred (other skills related to employability and personal development).

- D1- Encouraging students to be creative and create a spirit of perseverance and selfdenial through continuous encouragement of the need for joint and effective cooperation among them to fulfill their academic requirements.
- D2 They were provided with the university's website related to the availability of future opportunities for recruitment and employment
 - D 3- To provide them with knowledge of the importance of developing their capabilities through self-education by accessing various knowledge
- D4 Emphasis on the development of students' self-talents such as sports and arts of

all kinds in their spare time. Assessment Methods d- General and rehabilitative skills transferred (other skills related to employability and personal development).

D1- Encouraging students to be creative and create a spirit of perseverance and self-denial

through continuous encouragement of the need for joint and effective cooperation among them

to fulfill their academic requirements.

D2 - They were provided with the university's website related to the availability of future

opportunities for recruitment and employment

D 3- To provide them with knowledge of the importance of developing their capabilities

through self-education by accessing various knowledge

D4 - Emphasis on the development of students' self-talents such as sports and arts of all kinds

in their spare time.

	11. Progr	amme Structure		
Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
third level	EWC 3305	Electro physical chemistry	Credit hours practical 2 theory 3	Bachelor Degree Requires (x) credits
				Encouraging students to achieve the highest marks in
				the final stages of study at the college in order to be the first in order to achieve their
				future dreams of completing their studies in graduate
				studies

13. Personal Development Planning

Admission criterion (setting regulations related to joining the college or institute)

14. Admission criteria.

The standard to be followed is the student's (grade) score

But it is preferable to take into account (the desire of the student) to choose, even if it is

impossible to choose the college, but at least this is taken when choosing between departments

because it is a very important matter on which the future of the entire student depends.

15. Key sources of information about the programme

	Curriculum Skills Map																		
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
					Programme Learning Outcomes														
Year / Leve	Cours e Code	Course Title	Core (C) Title or Opt	1	Knov a under	vledge ind standi g	e in		Sul	oject- specifi skills	с		Thinl	cing Sl	kills	Tra Oth er per	Genera nsferable er skills mployab sonal de	al and eSkills (relevan pility an welopm	(or) It to d ent
1			ion (O)	A1	A2	A3	A4	B 1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
41 1 1																			
third level	EWC 3305	Electro	Basic																
		physical																	
		chemistry																	

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Anbar/College education for women
2. University Department/Centre	Chemistry
3. Course title/code	Electro physical chemistry
4. Programme(s) to which it contributes	Bachelor degree in Chemistry
5. Modes of Attendance offered	2019-2020
6. Semester/Year	54 h
7. Number of hours tuition (total)	25/10/ 2020
8. Date of production/revision of this specification	Classroom
9. Aims	of the Course

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A- Cognitive goals

1- Understand the nature of kinetic chemistry related to mechanics

2- Distinguish between all branches of physical chemistry

3- Distinguishing between physical chemistry and other disciplines of chemistry

B. Subject-specific skills

Study of kinetic chemistry related to the mechanics, speed, and order of chemical reactions,

kinetic theories of reactions, mechanics of complex reactions, ionic strength, and

electrochemistry: electrical conduction, electrical cell, electrodes, photochemistry, and

photochemical reactions.

Teaching and Learning Methods

1-Adopting the method of giving lectures and linking each topic with examples from the reality of the work situation.

2- Giving them some simple practical exercises that are being discussed by the

students and solved during the lecture, with the participation of all the students in the

division with the professor to give the material a kind of interaction.

3- Presenting some practical cases.

Assessment methods

C. Thinking Skills

C 1- Instilling values and principles in the student

C 2 - Emphasis on personal characteristics such as integrity, honesty, confidentiality and morals.

C3 - Statement of the importance of the rules of professional conduct and its exposure to legal

penalties in case of violation

C4- Emphasizing the importance of fighting financial and administrative corruption

Teaching and Learning Methods

Adopting the method of giving lectures and linking each topic with examples from the reality of the situation.

2- Giving them some simple practical exercises that are discussed by the students and solving them

during the lecture and with the participation of all the students in the division with the professor to

give the material a kind of interaction.

Assessment methods

1- Through the participation of students in the lecture, based on their prior preparation of the

subject.

2- Giving them an (exercise) as it is a homework and asking for it to be solved with separate papers

to be collected from them in the next lecture.

3- Giving the students a case study and dividing the students into groups to write a report about that

study.

4- Evaluation through monthly exams.

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

D1- Encouraging students to be creative and create a spirit of perseverance and self-denial through continuous encouragement of the need for joint and effective cooperation among them to achieve their academic requirements D2 - They were provided with the university's website related to the availability of future opportunities for recruitment and employment D 3- To provide them with knowledge of the importance of developing their capabilities through self-education by accessing various knowledge D4 - Emphasis on the development of students' self-talents, such as sports and arts of all kinds in their spare time

11. Course Structure							
Week	Hours	ILOs	Unit/Module orTopic Title	Teaching Method	Assessment Method		
16	54						
		General	Electro	give lectures	Exam		
		understanding of	physical		my class		
		physico-kinetic	chemistry				
		chemistry					

	12. Infrastructure
Required reading: · Core Texts · Course Materials · Other	

Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

	13. Admissions
Pre-requisites	
-	Recommended books and references (scientific journals,
	ver erts)
	reports)
Minimum number of students	
	Arabic articles issued by academic and professional bodies
Maximum number of students	
	Attempting to link study topics to actual work through field
	visits

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Education for Women
2. University Department/Centre	Department of Chemistry
3. Programme Title	Quantum Chemistry
4. Title of Final Award	Bachelor of Chemistry
5. Modes of Attendance offered	On-line (Contraction)
6. Accreditation	Bachelor
7. Other external influences	
8. Date of production/revision of	26-02-2021
this specification	
9. Aims of the Programme	
To familiarize the student with the concept of	quantum mechanics
To identify the difference between classical and	nd modern quantum mechanics
That the student understands the methods of a	pproximation and solution to the Schroedinger equation
To familiarize the student with the basics of s	pectra

10. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Knowledge and Understanding A1. To familiarize the student with the concept of Quantum chemistry A2. The student will know quantum and an ideal gas.
A3. Olderstand the properties of gas A4. To familiarize the student with the most important properties, interactions and compounds of gas.
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
B5 Teamwork ability
Teaching and Learning Methods
1- Lectures
2- Worksheets
3- Submitting studies from the Internet
4- Use of computers and their accessories
5- Laboratory activities
Assessment methods
1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).
4- Practical (10%).
5- The final theoretical exam (50%).
6- Final practical exam (10%).
reaching and Leanning Methods
1- Lectures
2-Worksheets
3- Submitting studies from the Internet
4- Use of computers and their accessories
5- Laboratory activities
Assessment methods
1- Daily paper and oral exams (5%).
2- The monthly paper exams (20%).
3- Reports on topics related to the given theoretical material (5%).
4- Practical (10%).
5- The final theoretical exam (50%).
o- Final practical exam (10%).

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. 10 Ia	minarize the	student with the most	important p	properties, interactions and				
Teachin	g and Learnin	ng Methods						
1-Lectu	ires	0						
2- Work	2- Worksheets							
3- Subn	nitting studies	from the Internet						
4-Use o	4- Use of computers and their accessories							
5- Laboratory activities								
Assessment Methods								
1- Daily paper and oral exams (5%).								
2- The monthly paper exams (20%).								
3- Reports on topics related to the given theoretical material (5%).								
4- Practical (10%).								
5- The final theoretical exam (50%).								
6- Final practical exam (10%).								
11. Programme Structure								
	Course or	Course or Module	Credit	12. Awards and Credits				
Level/Year	Module	Title	rating					
2/2	Code	Ouentum Chemister	1 theoretical					
LI L		Quantum Chemistry 4 medicular 3 practical – Bachalor Dag						
		Level 2 Product Dachelor Degree						
				requires (x) creatts				

riculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Course Level	Course Title Core (C) Title or Opti (O)	Core (C) Title or Option (O)	Knowledge and understanding			Subject-specific skills			Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development						
				A1	A2	A3	A4	B 1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
2/1		Quantum Chemistry	С	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Education for Women					
2. University Department/Centre	Department of Chemistry					
3. Course title/code	Quantum Chemistry					
4. Programme(s) to which it contributes	Bachelor of Chemistry					
5. Modes of Attendance offered	On-line					
6. Semester/Year	First semester/ Second Year					
7. Number of hours tuition (total)	7 hours (4 theoretical + 3 Practical)					
8. Date of production/revision of this specification	04-01-2021					
9. Aims of the Course						
To familiarize the student with the concept of quantum mechanics						
To identify the difference between classical and modern quantum mechanics						

That the student understands the methods of approximation and solution to the Schroedinger equation

To familiarize the student with the basics of spectra

11. Course Structure							
Week	Hours	ILOs	Unit/Module or Topic Title	Teachin g Method	Assessmen tMethod		
1	4	knowledge and understanding	the basic Concepts				
2	4	knowledge and understanding	Reasons for the emergence of quantum mechanics				
3	4	knowledge and understanding	coordinate systems				
4	4	knowledge and understanding	complex numbers				
5	4	knowledge and understanding	Newton's law of motion				
6	4	knowledge and understanding	Bor theorem				
7	4	knowledge and understanding	hydrogen atom spectra				
8	4	knowledge and understanding	black body radiation				
9	4	knowledge and understanding	quantum mechanics hypotheses				
10	4	knowledge and understanding	body in a box				
11	4	knowledge and understanding	Approximation methods for the Schroedecker equation				
12	4	knowledge and understanding	Infrared spectroscopy				
13	4	knowledge and understanding	microwave spectroscopy				
14	4	knowledge and understanding	electronic spectra				
15	4	knowledge and understanding	Nuclear magnetic resonance spectrum				
16	4	knowledge and understanding	the basic Concepts				

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Quantum and Spectra - Dr. Qais Abdel Karim Spectrum - Dr. Laila Mohamed Naguib Physical Chemistry - Dr. Nouri Khalifa Fayyad Introduction to Quantum Chemistry - Dr. Muthana Abdul-Jabbar Quantum Mechanics in Chemistry - Dr. Muslim Abd Muhammad
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in inorganic chemistry, elements, chemical compounds and periodic tables of the elements
Community-based facilities (include for example, guest Lectures , internship , field studies)	All inorganic chemistry books that deal with the basic concepts of inorganic chemistry.

13. Admissions							
Pre-requisites	Physical Chemistry - Dr. Nouri Khalifa Fayyad Physical Chemistry - Dr. Muslim Abd						
Minimum number of students							
Maximum number of students							

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research				
2. University Department/Centre	College of Education For Women/ University of Anbar				
Chemistry					
--	--	--	--	--	--
Google classroom, Google Meet					
Electronic lectures					
4th stage					
90					
1/10/2020					
f the Course					
9. Aims of the Course 1. Course objectives Learn about polymers and their types, rubber and its types Knowing the link between water and industry and the importance of having water near industries Identify the problems facing the industry due to hard water Petroleum, how it is created, its refining and petrochemical industries Learn about polymers and their types, rubber and its types Knowing the link between water and industry and the importance of having water near industries Identify the problems facing the industry due to hard water					

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

Cognitive goals

A1- The ability to identify the types of rubber

A2- The ability to distinguish between natural rubber and synthetic rubber

A3- The ability to understand the different uses of the glass industry

A4- The ability to present proposals and solve industrial problems due to water hardness

A5- Benefiting from crude oil by converting it into many derivatives of great benefit

B - Skills objectives of the course.

B.1 Ability to deal with problems facing the industry due to hard water

B.2 Correctly distinguishing the problems facing oil extraction and ways to get rid of them

B.3 Using modern petroleum extraction work mechanisms.B. 4 Determine the quality standards of manufactured glass

Teaching and Learning Methods

By learning through the Classroom, 'google meet, YouTube lectures, and video lectures

Assessment methods

1 Midterm exam

2 Electronic activity

3 Electronic practical exam

4 Electronic oral exam

5 Final attendance exam

C. Thinking Skills

C1- Love to learn how to extract natural rubber C2- Identifying how to make the rubber industry successful and improve its quality. C3- Knowing how to use the different types of natural rubber and synthetic rubber C4- Identify the best types of oil extraction, and what are the types of petroleum quarries

Teaching and Learning Methods

Assessment methods

5- Through daily tests 6- Through daily posts inside the lecture 7- By solving homework 8- Through monthly tests D - Transferred general and rehabilitative skills (other skills related to employability and personal development).

D1 Ability to deal with problems that occur in the synthetic rubber industry D.2 Correct identification of rubber cracking and the ability to find solutions to it through vulcanization (sulfur and non-sulfur)

D.3 Evaluation and improvement of work mechanisms in oil extraction D.4 Determine the appropriate work standards for each industry

10. Course Structure					
Week	Hours	ILOs	Unit/Module orTopic Title	Teaching Method	Assessme nt Method
1	4		Summary of the chemistry of polymers, natural rubber, synthetic rubber	Electronic lectures	Exam+ activity
2	4		Water and industry, water properties, water sources,	Electronic lectures	Exam+ activity
3	4		The most important substances found in water, hardness in water, types of water hardness	Electronic lectures	Exam+ activity
4	4		Effect of salts in water on industrial processes, methods of removing hardness and salts	Electronic lectures	Exam+ activity
5	4		Methods of removing dissolved gases in water, uses of water in industry, water tests	Electronic lectures	Exam+ activity
6	4		Glass industry, raw materials, stages of glass manufacturing, types	Electronic lectures	Exam+ activity
7	4		first month exam		Exam+ activity
8	4		crude oil	Electronic lectures	Exam+ activity
9	4		Petroleum theories, organic theory, inorganic theory	Electronic lectures	Exam+ activity
10	4		Petroleum quarries, types, oil extraction	Electronic lectures	Exam+ activity
11	4		Petroleum classification, petroleum refining		Exam+ activity
12	4		Refining processes, distillation (primary, secondary and fixed secondary distillation	Electronic lectures	Exam+ activity
13	4		Processing process (natural and chemical)	Electronic lectures	Exam+ activity
14	4		Secondary conversion includes thermal cracking by high pressure catalyst, thermal cracking with a catalyst, polymerization, symmetry, and the alkyl method.	Electronic lectures	Exam+ activity

15	4	Petrochemical industries, characteristics of petrochemical industries, raw materials for petrochemical industries, ethylene	Electronic lectures	Exam+ activity
16	4	second month exam		Exam+ activity

1	2. Infrastructure
Required course books:	Industrial chemistry book, written by Dr. Jawad Kazem, Dr. Salwa Abdel Qader Industrial chemistry and its raw materials, written by Dr. Ali Falih Ajam and Dr. Nabil Muhammad Ali Industrial Chemistry Written by Tariq Ismail Kakhia
Main references (sources)	Book of industrial chemistry, industrial and its raw materials
Community-based facilities (include for example, guest Lectures , internship , field studies)	scientific researches

13. Admissions				
Pre-requisites				
Minimum number of students				
Maximum number of students				

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Education for Women
2. University Department/Centre	Department of Chemistry
3. Course title/code	Biochemistry
4. Programme(s) to which it contributes	Bachelor of Chemistry
5. Modes of Attendance offered	On-line (1997)
6. Semester/Year	First semester/ Fourth Year
7. Number of hours tuition (total)	5 hours (2 theoretical + 3 Practical)
8. Date of production/revision of this Specification	8-01-2022
9. Aims o	of the Course

10. Learning Outcomes, Teaching ,Learning and Assessment Methode
A- Knowledge and Understanding A1. To familiarize the student with the concept of biochemistry A2. The student will know how the body can made compounds and can get to energy. A3. Understand the methods of the energy source.
B. Subject-specific skills
Teaching and Learning Methods
1- Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities
Assessment methods
 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%).
C. Thinking Skins C1. C2. C3. C4.
Teaching and Learning Methods
1- Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities
Assessment methods
 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%).

D. General and Transferable Skills (other skills relevant to employability and personal development)
 D1. Ability to work with information sources and biochemistry books
 D2. The ability to distinguish between carbohydrate metabolism and lipids in terms of different properties
 D3. The ability to know the compounds of each pathway .
 D4. The ability to know the different compounds of different pathways and how to distinguish between them

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	knowledge and understanding	Carbohydrate digestion	Lectures and the use of computers and accessories	Electronic, oral and practical exams
2	2	knowledge and understanding	Glycolysis	Lectures and the use of computers and accessories	Electronic, oral and practical exams
3	2	knowledge and understanding	Fate of carbohydrate	Lectures and the use of computers and accessories	Electronic, oral and practical exams
4	2	knowledge and understanding	Krebs cycle	Lectures and the use of computers and accessories	Electronic, oral and practical exams
5	2	knowledge and understanding	Phosphogluconate pathway	Lectures and the use of computers and accessories	Electronic, oral and practical exams
6	2	knowledge and understanding	Oxidative phosphorylation	Lectures and the use of computers and accessories	Electronic, oral and practical exams
7	2	knowledge and understanding	First Exam	Lectures and the use of computers and accessories	Electronic, oral and practical exams
8	2	knowledge and understanding	Glycogenolysis	Lectures and the use of computers and accessories	Electronic, oral and practical exams
9	2	knowledge	Gluconeogenesis	Lectures and	Electronic, oral and

		and understanding		the use of computers and accessories	practical exams
10	2	knowledge and understanding	Glycogenesis	Lectures and the use of computers and accessories	Electronic, oral and practical exams
11	2	knowledge and understanding	Lipid digestion	Lectures and the use of computers and accessories	Electronic, oral and practical exams
12	2	knowledge and understanding	Metabolism of lipids	Lectures and the use of computers and accessories	Electronic, oral and practical exams
13	2	knowledge and understanding	β-Oxidation	Lectures and the use of computers and accessories	Electronic, oral and practical exams
14	2	knowledge and understanding	Keton bodies	Lectures and the use of computers and accessories	Electronic, oral and practical exams
15	2	knowledge and understanding	Second Exam	Lectures and the use of computers and accessories	Electronic, oral and practical exams

12. Infrastructure				
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	 Fundamentals of Biochemistry. 2- General Biochemistry. 3- Lippincott biochemistry. 			
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in biochemistry, metabolism of carbohydrate and lipids.			
Community-based facilities (include for example, guest Lectures , internship , field studies)	All Biochemistry books that deal with the basic concepts of biochemistry.			

Pre-requisites	
Minimum number of students	
Maximum number of students	

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Education for Women
2. University Department/Centre	Department of Chemistry
3. Course title/code	Biochemistry
4. Programme(s) to which it contributes	Bachelor of Chemistry
5. Modes of Attendance offered	On-line (1997)
6. Semester/Year	Second semester/ Fourth Year
7. Number of hours tuition (total)	5 hours (2 theoretical + 3 Practical)
8. Date of production/revision of this Specification	8-01-2022
9. Aims c	f the Course

10. Learning Outcomes, Teaching ,Learning and Assessment Methode
B- Knowledge and Understanding A1. To familiarize the student with the concept of biochemistry A2. The student will know how the body can made compounds and can get to energy.
A3. Understand the methods of the energy source.
B. Subject-specific skills
Teaching and Learning Methods
1- Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities
Assessment methods
 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%).
C. Thinking Skills C1. C2. C3. C4.
Teaching and Learning Methods
1- Lectures 2- Worksheets 3- Submitting studies from the Internet 4- Use of computers and their accessories 5- Laboratory activities
Assessment methods
 1- Daily paper and oral exams (5%). 2- The monthly paper exams (20%). 3- Reports on topics related to the given theoretical material (5%). 4- Practical (10%). 5- The final theoretical exam (50%). 6- Final practical exam (10%)

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Ability to work with information sources and biochemistry books D2. The ability to know the compounds of each pathway . D4. The ability to know the different compounds of different pathways and how to distinguish between them

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	knowledge and understanding	Proteins digestion	Lectures and the use of computers and accessories	Electronic, oral and practical exams
2	2	knowledge and understanding	Proteins catabolism	Lectures and the use of computers and accessories	Electronic, oral and practical exams
3	2	knowledge and understanding	metabolism of amino acids	Lectures and the use of computers and accessories	Electronic, oral and practical exams
4	2	knowledge and understanding	Urea cycle	Lectures and the use of computers and accessories	Electronic, oral and practical exams
5	2	knowledge and understanding	Glucose-alanine cycle	Lectures and the use of computers and accessories	Electronic, oral and practical exams
6	2	knowledge and understanding	Amino acids product oxaloacetate	Lectures and the use of computers and accessories	Electronic, oral and practical exams
7	2	knowledge and understanding	Amino acids product α- ketoglutarate	Lectures and the use of computers and accessories	Electronic, oral and practical exams
8	2	knowledge and understanding	First Exam	Lectures and the use of computers and accessories	Electronic, oral and practical exams
9	2	knowledge and understanding	Amino acids product acetyl-CoA	Lectures and the use of	Electronic, oral and practical exams

				computers and	
				accessories	
10	2	knowledge and	Amino acids product	Lectures and	Electronic, oral and
		understanding	succinyl-CoA	the use of	practical exams
				computers and	
				accessories	
11	2	knowledge	Protein synthesis	Lectures and	Electronic, oral and
		understanding		the use of	practical exams
				computers and	
				accessories	
12	2	knowledge	Replication and	Lectures and	Electronic, oral and
		understanding	transcription of genetic	the use of	practical exams
		Ŭ	of genetic information	computers and	1
				accessories	
13	2	knowledge	Replication of DNA	Lectures and	Electronic, oral and
		and understanding		the use of	practical exams
		U		computers and	1
				accessories	
14	2	knowledge	Genetic mutation and	Lectures and	Electronic, oral and
		and understanding	repair	the use of	practical exams
		U		computers and	1
				accessories	
15	2	knowledge	Second Exam	Lectures and	Electronic, oral and
		and understanding		the use of	practical exams
		0		computers and	
				accessories	

12. Infrastructure				
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	 Fundamentals of Biochemistry. 2- General Biochemistry. 3- Lehninger principle of biochemistry 6th edition 			
Special requirements (include for example workshops, periodicals, IT software, websites)	All websites and Software that are interested in biochemistry, metabolism of carbohydrate and lipids.			
Community-based facilities (include for example, guest Lectures , internship , field studies)	All Biochemistry books that deal with the basic concepts of biochemistry.			

13. Admissions			
Pre-requisites			

Minimum number of students	
Maximum number of students	

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Anbar
2. University Department/Centre	College of Education for Women Department Department of Chemistry
3. Programme Title	Chemistry
4. Title of Final Award	Bachelor in Chemistry
5. Modes of Attendance offered	Courses
6. Accreditation	
7. Other external influences	
8. Date of production/revision of	30/1/2022
this specification	

9. Aims of the Programme

 Preparing graduates with high theoretical and practical skills to meet the needs of education in schools and community service in the field of teaching.
 Providing graduates with practical skills for teaching in accordance with the scientific developments taking place in the methodological vocabulary and modern teaching methods following up on the teaching of chemistry.

3. Preparing graduates to actively participate in the country's progress and achieve social benefits for society.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

The student has the ability to know and understand the principles, theories and basics of chemistry.

The student has the ability to understand modern and advanced scientific topics in the field of chemistry.

 \Box Have a student who is able to understand chemistry and the equations for studying it.

□ Have a student able to understand the basics of the work of laboratory devices that are used in chemical analysis.

Teaching and Learning Methods

 \Box Daily theoretical lectures.

□ Practical lectures in laboratories.

□ Graduation projects for students of the completed stage and their discussion.

Assessment methods

 \Box Monthly and quarterly written exams.

 \Box Quick exams (Quizzes).

 \Box Homework.

 \Box Writing scientific reports and research.

C. Thinking Skills

□ Description and analysis of chemical applications.

 \Box Analyze problems related to chemistry and discuss possible solutions.

D. General and Transferable Skills (other skills relevant to employability and personal						
 development) Analyzing and discussing the results of laboratory experiments for use in understanding chemical phenomena. The ability to write and draft laboratory reports on the results of examinations and scientific tests. The ability to derive the results of experiments 						
		Teaching and Lear	ning Metho	ods		
 Daily theoretical lectures. Practical lectures in laboratories. Graduation projects for students of the completed stage and their discussion. 						
		Assessment N	Aethods			
 Monthly and quarterly written exams. Quick exams (Quizzes). Homework. Writing scientific reports and research. 						
11. Programme Structure						
First year				12. Awards and Credits		
Level/Year	Module Code	Course or Module Title	Credit rating			
Course	EWC 1101	Arabic Language	2	Bachelor Degree		
Course	EWC 1102	English Language	2	Requires (x) credits		
Course	EWC 2101	Educational Psychology	2			
Course	EWC 2102	Human Rights	2			
Course	EWC 2103	Foundations of Breeding	2			
Course	EWC 3101	Life sciences	3			
Course	EWC 3102	Calculators – 1	3			
Course	EWC 3103	Mathematics - 1	2			
Course	EWC 3104	Analytical - 1	3.5			
Course	EWC 3105	Analytical - 2	3.5			

Course	EWC 3106	Organic – 1	3.5
Course	EWC 3107	Organic - 2	3.5
Course	EWC 3108	Inorganic - 1	2
Course	EWC 3109	Inorganic - 2	2
	Sec	cond year	
Course	EWC 2201	Developmental Psychology	2
Course	EWC 2202	Liberties	2
Course	EWC 2203	Educational administration	2
Course	EWC 3201	Mathematics - 2	2
Course	EWC 3202	Physics	2
Course	EWC 3203	Research Method	2
Course	EWC 3204	Calculators - 2	2
Course	EWC 3205	Organic - 3	5.5
Course	EWC 3206	Inorganic - 3	5.5
Course	EWC 3207	Physics – 1	5.5
Course	EWC 3208	Analytical - 3	5.5
	Tł	nird year	
Course	EWC 2301	Counseling and mental health	2
Course	EWC 2301	Curriculum and teaching methods	2
Course	EWC 3301	Pollution	2.5
Course	EWC 3302	Organic - 4	3.5
Course	EWC 3303	Organic - 5	3.5
Course	EWC 3304	Industrial - 1	5.5
Course	EWC 3305	Physics – 2	3.5
Course	EWC 3306	Physics – 3	3.5

Course	EWC 3307	Inorganic - 4	3.5
Course	EWC 3308	Biochemistry – 1	2.5
	Fo	urth year	
Course	EWC 2401	Measuring and evaluating	2
Course	EWC 2402	school apps	2
Course	EWC 3401	Optional	2
Course	EWC 3402	Research Project	1.5
Course	EWC 3403	Biochemistry - 2	3.5
Course	EWC 3404	Biochemistry - 3	3.5
Course	EWC 3405	Quantum and spectra	2
Course	EWC 3406	Organic Diagnostics	3.5
Course	EWC 3407	Automatic analysis	5.5
Course	EWC 3408	Industrial - 2	4

13. Personal Development Planning
Creating an action plan based on awareness, values, reflection, goal-setting and planning for personal development within the context of a career
14. Admission criteria.
 Adopting the admission requirements for students in accordance with the regulations of the Ministry of Higher Education and Scientific Research (central admission) Personal interview of the department. To be fit for a medical examination. High school average. The absorptive capacity of the college.
15. Key sources of information about the programme
 Market needs. Local trends of the province. Studies and questionnaires.

please tick in the relevant boxes where individual Programme Learning Outcomes are being	
assessed	

					Programme Learning Outcomes														
	Year/ Level	Course Code	Course Title	Core (C) Title or Optio n(O)	Knowledge and understanding			Subject- specific skills				Thinking Skills			General and TransferableSkills (or) Other skills relevant to employability and personal development				
					A1	A 2	A3	A 4	В 1	В 2	B 3	В 4	C 1	C2	C3	D 1	D2	D3	D4
	Fourth/ 2022	EWC 3408	Industrial - 2	essential	\checkmark			V	V	\checkmark	V	V	V	V		V	V	V	