Republic of Iraq

Ministry of Higher Education & Scientific Research Supervision and Scientific Evaluation Directorate Quality Assurance and Academic Accreditation

Academic Program Specification Form For The Academic

University: University of Anbar

College :College of Education for Pure Science

Department:

Date Of Form Completion: 17/10/2021

Prof. Dr. Abdul Rahman Salman, Juma

Assist. Prof. Dr. Harith Kamil Buniya Prof.Dr. Hameed Khalid Ali

Dean's Name

Dean's Assistant For Scientific Affairs Head of

Department

Date:12/4/2022

Signature

Date: 12/ 4 /2022

Signature

Date: 10/ 4/2022

Signature

Dr. Hiba Abbas Jasim

Quality Assurance And University Performance Manager

Date: 12 14/2022

Signature Piba lulus

الشؤون العلمية العلوم المراق العلمية الشؤون العلمية العلمية المراق العلمية العلمية المراق المراق العلمية المراق ا

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 pure science- Department of Chemistry |
| 3. Programme Title | Education Chemistry Sciences |
| 4. Title of Final Award | Bachelor of Education Chemistry Sciences |
| 5. Modes of Attendance offered | Quarterly |
| 6. Accreditation | Nothing |
| 7. Other external influences | School application - practical graduation research projects |
| 8. Date of production/revision ofthis | 17/10/2021 |
| specification | |

9. Aims of the Programme

- 1. Achieving the specified standards for the quality of material, human, technical and financial resources.
- 2. Providing an efficient administrative staff that knows its duties and powers according to the work structures and regulations, in which the requirements of the job description are fulfilled.

- 3. Providing a specialized teaching staff who is fluent in using modern techniques and methods in education with good job satisfaction.
- 4. Preparing academic programs in accordance with international academic standards and providing their knowledge, training and technical requirements.
- 5. Preparing students with scientific, practical and educational knowledge that meets the needs of the labor market.
- 6. Paying attention to scientific research in terms of laboratory, research and researcher in order to achieve a distinguished research reputation locally and globally.
- 7. Research and professional openness to community institutions to meet their needs and aspirations.
- 8. Evaluate all individuals and processes to ensure quality performance and continuous improvement.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A1. Knowledge and Understanding

- A1. Enable the student to acquire theoretical knowledge of chemistry.
- A2. Empowering the student how to teach and ways of communicating scientific information to students.
- A3. The student's knowledge of the methods of measurement and evaluation and methods of modern teaching methods in chemistry.
- A4. The student is acquainted with the educational material by providing it electronically in the virtual classroom. In addition to enabling the student to know the learning theories related to the ages of students for the secondary school stage.

B. Subject-specific kills

- B1. Gaining knowledge and enriching the student with the methods of laboratory work.
- B2. Orienting the student to the scientific method in solving all scientific problems.
- B3. Knowing the objectives and origins of the art of teaching chemistry.
- B4. Enabling students to acquire the skills of using virtual classrooms

Teaching and Learning Methods

- 1. The method of listening and thinking deeply in order to understand the problem to solve it.
- 2. The method of scientific discussion and meaningful dialogue.
- 3. Adopting the method of monthly and final exams and submitting weekly reports.

Assessment methods

- 1. The treatment method using final scores.
- 2. Random and surprise tests.
- 3. Teaching tasks in the virtual classroom.

C. Thinking Skills

- C1. Adopting the method of dialogue between the student and the professor.
- C2. Interest in research projects and preparing organized reports
- C3. Adopt the method of discussion. (Performance tests and seminars).
- C4. Adopting e-learning to provide an interesting and flexible learning environment.

Teaching and Learning Methods

- 1. Method of application in research laboratories
- 2. Adopting the method of constructive dialogue and discussion
- 3. Adopt the trial-and-error method.
- 4. The adoption of multimedia in the virtual classes (image, text, audio, video)

Assessment methods

- 1. Preparation of the seminar (graduation research)
- 2. Adoption of the grading method as a basis in the evaluation process.
- 3. Adoption of the test method.
- 4. Adopting the method of discussions and dialogues between the students and the professor.
- 5. Create a test task in the virtual classes.
- D. General and Transferable Skills (other skills relevant to employability and personal development)
- D1- That the student benefit from his learning and embody this in his personal and professional development.
- D2- That the student is able to employ the knowledge he receives during the study stage.
- D3- That the student benefit from theoretical knowledge in employing the teaching profession and mastering it in a concept-based manner.

Fundamentals of teaching chemistry.

D4 - Skills of modern technologies in communication, documentation and communication.

Teaching and Learning Methods

- Field visits in laboratories.
- 2. Scientific application in laboratories.
- 3. Take advantage of graduation research.
- 4. Presentation and presentation of educational content in virtual classes using multimedia (video, recorded lecture).

Assessment Methods

- 1. Articles and periodical research
- 2. The interview
- 3. Final exams
- 4. Determining study tasks and duties periodically and regularly in the virtual classroom

| 11. Progran | nme Structure | | | |
|----------------|----------------|--------------------------------|--------|-------|
| | Course or | | Weekly | hours |
| Level/ Year | Module Code | Course or ModuleTitle | Lec. | Lab. |
| | CHEM111 | Analytical Chemistry 1 | 2 | 2 |
| | CHEM121 | organic chemistry 1 | 2 | 2 |
| | CHEM131 | inorganic chemistry 1 | 2 | 0 |
| | CHEM181 | Chemical safety and security | 2 | - |
| | CHEM112 | Analytical Chemistry 2 | 2 | 2 |
| | CHEM122 | organic chemistry 2 | 2 | 2 |
| | CHEM132 | inorganic chemistry 2 | 2 | 0 |
| T | BIO120 | Biology | 2 | 2 |
| First | EPS101 | educational psychology | 2 | - |
| | EPS102 | Education principles | 2 | - |
| | UOA140 | English language 1 | 2 | - |
| | UOA135 | Human rights and democracy | 2 | - |
| | UOA137 | Arabic language 1 | 2 | - |
| | UOA141 | Computer | 1 | 2 |
| | MAT105 | Calculus 1 | 2 | - |
| | MAT113 | Calculus 2 | 2 | - |
| | CHEM213 | Analytical Chemistry 3 | 2 | 2 |
| | CHEM223 | Organic Chemistry 3 | 2 | 2 |
| | СНЕМ233 | Inorganic Chemistry 3 | 2 | 2 |
| | CHEM241 | Physical Chemistry 1 | 2 | 2 |
| | CHEM214 | Analytical Chemistry 4 | 2 | 2 |
| | CHEM224 | Organic Chemistry 4 | 2 | 2 |
| | CHEM234 | Inorganic Chemistry 4 | 2 | 2 |
| Second | CHEM242 | Physical Chemistry 2 | 2 | 2 |
| | EPS202 | Developmental Psychology | 2 | - |
| | EPS201 | Educational Management | 2 | - |
| | EPS211 | Scientific Research Methodolgy | 2 | - |
| | UOA240 | Arabic Language 2 | 2 | - |
| | UOA241 | Computer | 1 | 2 |
| | MAT | Mathematics | 2 | - |

| | CHEM351 | Biochemistry 1 | 2 | 2 |
|--------|---------|---|---|---|
| | CHEM325 | Organic Chemistry 5 | 2 | 2 |
| | СНЕМ331 | Inorganic Chemistry 5 (Coordination) | 2 | 2 |
| | CHEM341 | Physical Chemistry 3 | 2 | 2 |
| | CHEM361 | Industrial Chemistry 1 | 2 | - |
| | CHEM352 | Biochemistry2 | 2 | 2 |
| Third | CHEM326 | Organic Chemistry 6 | 2 | 2 |
| | СНЕМ332 | Inorganic Chemistry 6 (Coordination) | 2 | 2 |
| | CHEM342 | Physical Chemistry 4 | 2 | 2 |
| | CHEM362 | Industrial Chemistry 2 | 2 | - |
| | EPS311 | Curriculum and teaching method | 2 | - |
| | EPS312 | Counseling and mental healt | 2 | - |
| | UOA340 | English Language 3 | 2 | - |
| | CHEM453 | Biochemistry 3 | 2 | - |
| | CHEM427 | Organic identification | 2 | 2 |
| | CHEM415 | Instrumental Analysis 1 | 2 | 2 |
| | CHEM445 | Physical Chemistry (Quantum) | 2 | - |
| | CHEM463 | Industrial Chemistry 3 | 2 | 2 |
| | CHEM454 | Biochemistry 4 | 2 | - |
| F 4 | CHEM428 | Organic identification 2 | 2 | 2 |
| Fourth | CHEM416 | Instrumental Analysis 2 | 2 | 2 |
| | CHEM446 | Physical Chemistry (Quantum) | 2 | - |
| | CHEM464 | Industrial Chemistry 4 | 2 | 2 |
| | EPS411 | measuring and evaluating | 2 | - |
| | EPS412 | teaching apps | 2 | - |
| | EPS413 | school apps | - | 4 |
| | СНЕМ491 | Graduation Project | 2 | - |

13. Personal Development Planning

- 1. Using modern scientific sources.
- 2. Using rapid communication networks to transfer information such as the Internet.
- 3. Visits and practical practices in service laboratories.
- 4. Acquisition of scientific and modern experiences and skills in the field of modern technical communication

14. Admission criteria

- 1. Admission according to the general and central average system.
- 2. Admission to departments is according to the student's desire and is modified.
- 3. It is a condition for a graduate of the preparatory school and the scientific stream exclusively.
- 4. The accepted student's personal and mental integrity and freedom from physical impairments

15. Key sources of information about the programme

- 1. Curriculum books approved by the Sectorial Committee of the Faculties of Education for Pure Sciences.
- 2. Helping books.
- 3. Books and archaeological resources / sources in the English language.
- 4. Additional sources from the Internet.
- 5. The training courses held by the university on e-learning platforms.

| | | | | | | C | urricu | lum Sk | ills Ma | ap | | | | | | | | | |
|-----------------|-----------------------------|------------------------------|------------------------------|-----------------------------|-----------|--------------|-----------|----------------------------|----------|----------|-----------|-----------|-----------|-----------|------|-----------|---|-------------|-------|
| | Programme Learning Outcomes | | | | | | | | | | | | | | | | | | |
| Year / Level | Course CourseTitle | | Core (C) or Option (O) | Knowledge and understanding | | | | Subject-specific skills | | | | | Thir | iking Ski | ills | (or) | ral and Tra Other ski ployability develo | lls relevan | nt to |
| | | | (0) | A1 | A2 | A3 | A4 | B 1 | B2 | В3 | B4 | C1 | C2 | С3 | C4 | D1 | D2 | D3 | D4 |
| | CHEM111 | Analytical Chemistry 1 | core | √ | V | √ | | V | | | | √ | √ | | | V | | | |
| | | organic chemistry 1 | core | | √ | $\sqrt{}$ | | $\sqrt{}$ | | | | √ | √ | | | √ | | | |
| | CHEM131 | inorganic chemistry 1 | core | √ | $\sqrt{}$ | \checkmark | | √ | | | | √ | √ | | | √ | | | |
| | CHEM181 | Chemical safety and security | Option | V | V | V | | V | | | | √ | √ | | | 1 | | | |
| | CHEM112 | Analytical Chemistry 2 | core | √ | √ | V | | V | | | | 1 | √ | | | V | | | |
| | CHEM122 | organic chemistry 2 | core | $\sqrt{}$ | $\sqrt{}$ | $\sqrt{}$ | | $\sqrt{}$ | | | | $\sqrt{}$ | $\sqrt{}$ | | | $\sqrt{}$ | | | |
| | CHEM132 | inorganic chemistry 2 | core | √ | V | $\sqrt{}$ | | V | | | | 1 | √ | | | 1 | | | |
| First | BIO120 | Biology | core | | V | √ | | √ | | | | | √ | | | √ | | √ | |
| | EPS101 | educational psychology | core | | | | √ | | | V | | | | V | | V | | V | |
| | EPS120 | Education principles | core | | | | 1 | | | V | | | | √ | | √ | | $\sqrt{}$ | |
| | UOA140 | English language 1 | core | | $\sqrt{}$ | | | | | | $\sqrt{}$ | | | $\sqrt{}$ | | | | | |
| | UOA135 | Human rights and democracy | core | | | | √ | | | √ | | | | V | | | | | |
| | UOA137 | Arabic language 1 | core | | | | √ | | | | √ | | | V | | | | | |
| | UOA141 | Computer | core | | V | | √ | | | | √ | | | | √ | | | | √ |
| | METH | Calculus 1 | core | | √ | √ | | | √ | | | | | | | | √ | | |
| | METH | Calculus 2 | core | | V | $\sqrt{}$ | | | √ | | | | | | | | √ | | |

| | | | | | | (| Curricu | lum Sl | cills M | ap | | | | | | | | | | |
|----------------|------------|-----------------------------------|------|-----------|-----------------------------|-----------|-----------|------------|----------------------------|--------------|-------|-----------|-----------------|-------|-----------|----|--|--------------|----|--|
| | | | | | | | | | | Pro | gramm | e Learr | ing Outo | comes | | | | | | |
| Year/ Level | Cada | | | K ı | Knowledge and understanding | | | | Subject-specific skills | | | | Thinking Skills | | | | General and TransferableSkills (or) Other skills relevant to employability and personal development | | | |
| | | | | A1 | A2 | A3 | A4 | B 1 | B2 | В3 | B4 | C1 | C2 | С3 | C4 | D1 | D2 | D3 | D4 | |
| | C.HR/VIZI3 | Analytical Chemistry 3 | core | V | 1 | $\sqrt{}$ | | $\sqrt{}$ | | | | V | V | | | | V | | | |
| | CHEM223 | Organic Chemistry 3 | core | V | V | V | | $\sqrt{}$ | | | | V | $\sqrt{}$ | | | | √ | | | |
| | CHEM233 | Inorganic Chemistry | core | $\sqrt{}$ | $\sqrt{}$ | $\sqrt{}$ | | $\sqrt{}$ | | | | $\sqrt{}$ | $\sqrt{}$ | | | | V | | | |
| | CHEM241 | Physical Chemistry 1 | core | V | 1 | $\sqrt{}$ | | $\sqrt{}$ | | | | V | $\sqrt{}$ | | | | \checkmark | | | |
| | CHEM214 | Analytical Chemistry 4 | core | V | V | V | | V | | | | V | V | | | | V | | | |
| | CHEM224 | Organic Chemistry 4 | core | $\sqrt{}$ | 1 | $\sqrt{}$ | | $\sqrt{}$ | | | | √ | $\sqrt{}$ | | | | V | | | |
| Second | CHEM234 | Inorganic Chemistry 4 | core | $\sqrt{}$ | $\sqrt{}$ | $\sqrt{}$ | | $\sqrt{}$ | | | | $\sqrt{}$ | $\sqrt{}$ | | | | $\sqrt{}$ | | | |
| Second | CHEM242 | Physical Chemistry | core | $\sqrt{}$ | | $\sqrt{}$ | | $\sqrt{}$ | | | | $\sqrt{}$ | $\sqrt{}$ | | | | $\sqrt{}$ | | | |
| | | Developmental Psychology | core | | | | $\sqrt{}$ | | | \checkmark | | $\sqrt{}$ | | | | | | \checkmark | | |
| | 1 DC 1 7/1 | Educational Management | core | | | | 1 | | | $\sqrt{}$ | | | | | $\sqrt{}$ | | $\sqrt{}$ | $\sqrt{}$ | | |
| | | Scientific Research Methodolgy | core | | | | V | | | | | | V | | V | | √ | | V | |
| | UOA240 | English Language 2 | core | | | | | | $\sqrt{}$ | | | | | | $\sqrt{}$ | | | | | |
| | UOA241 | Computer | core | | | | | $\sqrt{}$ | V | | | | $\sqrt{}$ | | | | √ | | | |

| | | | | | | (| Curricu | ılum S | kills M | ap | | | | | | | | | |
|-----------------|-------------------------|---|------------------------------|-----------------------------|----------|----------|----------|----------------------------|----------|-----------|----------|-----------------|----------|-------|----------|--|-----------|----|----------|
| | <u> </u> | please tick in the relevant | boxes where | individ | lual Pr | ogramn | ne Lean | rning (| Outcom | es are bo | eing ass | essed | | | | | | | |
| | | | | | | | | | | Pro | gramm | e Leari | ning Out | comes | | | | | |
| Year / Level | Course Code CourseTitle | | Core (C) or Option (O) | Knowledge and understanding | | | | Subject-specific skills | | | | Thinking Skills | | | | General and TransferableSkills (or) Other skills relevant to employability and personal development | | | |
| | | | | A1 | A2 | A3 | A4 | B1 | B2 | В3 | B4 | C1 | C2 | С3 | C4 | D1 | D2 | D3 | D4 |
| | CHEM351 | Biochemistry 1 | core | V | V | V | | V | V | | | V | V | | | | $\sqrt{}$ | | |
| | CHEM325 | Organic Chemistry 5 | core | √ | √ | √ | | √ | V | | | √ | V | | | | V | | |
| | CHEM331 | Inorganic Chemistry 5 (Coordination) | core | V | V | V | | V | V | | | 1 | V | | | | V | | |
| | CHEM341 | Physical Chemistry 3 | core | V | V | V | | V | V | | | V | V | | | | V | | |
| | CHEM361 | Industrial Chemistry 1 | core | V | V | V | | V | V | | | V | V | | | | V | | |
| | CHEM352 | Biochemistry2 | core | V | V | V | | V | V | | | V | V | | | | V | | |
| 773.1 3 | CHEM326 | Organic Chemistry 6 | core | V | V | V | | V | V | | | V | V | | | | V | | |
| Third | CHEM332 | Inorganic Chemistry 6 (Coordination) | core | √ | V | V | | V | V | | | √ | V | | | | $\sqrt{}$ | | |
| | CHEM342 | Physical Chemistry 4 | core | V | V | V | | V | V | | | V | V | | | | V | | |
| | CHEM362 | Industrial Chemistry 2 | core | V | V | V | | V | V | | | V | V | | | | V | | |
| | | Curriculum and teaching methods | core | | | | V | | | 1 | V | | | V | V | V | √ | V | V |
| | | Counseling and mental health | core | | | | V | | | V | | | | V | | V | | | |
| | UOA340 | English Language 3 | core | | V | | | | | | V | | | | V | | | | V |

| | | | | | | C | urricu | lum Sk | tills Ma | ар | | | | | | | | | |
|-----------------|----------------|---------------------------------|--------------------------|----------|-----------------------------|-----------|--------|----------------------------|-----------|-----------|-----------|-----------------|-----------|-----------|----|-----------|--|-------------------------|-----------|
| | | | | | | | | | Pro | gramme | Learı | ning Out | comes | | | | | | |
| Year / Level | Course Code | Course | Core (C) Or Option | | Knowledge and understanding | | | Subject-specific skills | | | | Thinking Skills | | | | (or) | al and Tra Other skil oloyability develoj | ls relevan and perso | t to |
| | | | (O) | A1 | A2 | A3 | A4 | B1 | B2 | В3 | В4 | C1 | C2 | С3 | C4 | D1 | D2 | D3 | D4 |
| | CHEM453 | Biochemistry 3 | Core | V | $\sqrt{}$ | $\sqrt{}$ | | $\sqrt{}$ | | | | V | V | | | | V | | |
| | CHEM427 | Organic identification 1 | Core | √ | V | √ | | V | √ | | | √ | √ | | | | V | | |
| | CHEM415 | Instrumental Analysis 1 | Core | √ | V | V | | V | √ | | | √ | √ | | | | V | | $\sqrt{}$ |
| | СНЕМ445 | Physical Chemistry (Quantum) | Core | 1 | √ | V | | V | √ | | | √ | √ | | | | √ | V | √ |
| | CHEM463 | Industrial Chemistry 3 | Core | V | V | V | | V | √ | | | V | V | | | | V | √ | $\sqrt{}$ |
| | CHEM454 | Biochemistry 4 | Core | V | V | √ | | √ | √ | | | V | V | | | | V | √ | $\sqrt{}$ |
| | CHEM428 | Organic identification 2 | Core | V | V | V | | V | √ | | | V | √ | | | | V | | |
| Fourth | CHEM416 | Instrumental Analysis 2 | Core | V | V | V | | V | √ | | | √ | √ | | | | √ | | |
| | CHEM446 | Physical Chemistry (Quantum) | Core | V | V | V | | V | √ | | | √ | √ | | | | √ | | |
| | CHEM464 | Industrial Chemistry 4 | Core | | $\sqrt{}$ | $\sqrt{}$ | | $\sqrt{}$ | | | | | $\sqrt{}$ | | | | $\sqrt{}$ | | |
| | UOA440 | English language | Core | | $\sqrt{}$ | $\sqrt{}$ | | | | | | | | | | $\sqrt{}$ | | | |
| | EPS411 | measuring and evaluating | Core | | | V | | | | | √ | | | √ | | V | √ | | |
| | EPS412 | teaching apps | Core | | | | | | | $\sqrt{}$ | $\sqrt{}$ | | | $\sqrt{}$ | | V | V | | |
| | EPS413 | school apps | Core | | | | | | | √ | $\sqrt{}$ | | $\sqrt{}$ | $\sqrt{}$ | | $\sqrt{}$ | $\sqrt{}$ | | |
| | CHEM491 | Graduation Project | Core | | | | | $\sqrt{}$ | | | √ | | √ | | | √ | V | | |