

Academic Program Specification Form for The Academic

University: Anbar
College: Science
Department: **Biotechnology**
Date Of Form Completion: 14 - 9 - 2022



Dean's Name

Dr. Emad A. Salih

Date: 15/9/2022



Dean's Asst. for Scientific Affairs

Dr. Ahmed S. Obaid

Date: 15/9/2022



Head of Department

Dr. Safaa Abed Latef Mutlaq

Date: 15/9/2022



Quality Assurance and University Performance Manager

Osama j. Mohammad

Date: 15/9/2022



TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Program Specification provides a concise summary of the main features of the program 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 program.

| | |
|---|--|
| 1. Teaching Institution | University of Anbar |
| 2. University Department/Centre | Biotechnology |
| 3. Program Title | Bachelor |
| 4. Title of Final Award | Bachelor - Biotechnology |
| 5. Modes of Attendance offered | Semester |
| 6. Accreditation | Biotechnology |
| 7. Other external influences | Field work and scientific trips to rock outcrops , geological sites and institutions |
| 8. Date of production/revision of this specification | 14 – 9 - 2022 |
| 9. Aims of the Program | |
| Providing relevant institutions and departments with technical and scientific cadres of recent graduates. | |
| | |

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1. Choosing the best modern scientific methods in delivering information to students through a professional teaching staff.

A2. Providing students with scientific and practical Biotechnology experiences in all its branches through practical application in the department's laboratories and multiple field trips.

B. Subject-specific skills

The department aims to graduate scientific cadres working in the following:

B 1. Health and educational institutions

B2. Develop the student's research and analytical ability.

B 3. Develop the deductive side of the students.

B4. Learn how to work with scientific instruments

Teaching and Learning Methods

- Surprise daily tests (Quizzes) and weekly continuous exams.
- Practical exercises and activities in the classroom.
- Guiding students to scientific references to expand student's perceptions in understanding scientific courses.

Assessment methods

- Participation in the classroom.
- Presentation of activities.
- Semester and final exams.

C. Thinking Skills

C1. Develop the students ability to understand the specialization and deal with it flexibly

C2. Create a familiarity with branch applications.

C3. Responsibility in serving the community and the country through this scientific branch.

Teaching and Learning Methods

- Managing the lecture on an applied and scientific approach in a way that can be understood and analyzed.
- Giving students some group activities and assignments.
- Allocate a percentage of grades for the daily assignment and activities.

Assessment methods

- Active participation in the classroom is evidence of student commitment and responsibility.
- Commitment to deadlines for submitting assignments and research.
- The quarterly and final exams are an expression of commitments and cognitive and skill achievement.
- Applications, exercises and daily assignments.

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

- D1. Develop the student ability to deal with technical means.
- D2. Develop the student ability to deal with internet.
- D3. Develop the student ability to deal with multimedia.
- D4. Develop the student ability to dialogue and discussion.

Teaching and Learning Methods

- Presenting the courses in a clear and simplified manner with the use of correspondence and illustrative charts and presentation through the power point technique.
- Classroom and laboratory exercises and activities
- Weekly and quarterly assignments and reports.
- Guidance to scientific references to expand understanding of course details.
- Visits and field trips to work sites.

Assessment Methods

- Surprise daily tests or exams (Quizzes).
- Participation in the classroom.
- Presentation of activities.
- Semester and final exams.

| 11. Program Structure | | | | 12. Awards and Credits |
|-----------------------|--------------------------------|--------------|-----------|--|
| Level/Year | Course or Module Title | Creditrating | | |
| | | Theoretical | Practical | |
| 1st | human rights 1 | 1 | - | Bachelor Degree Requires (x) credits |
| 1 st | Computer | - | 2 | |
| 1st | analytical chemistry | 2 | 2 | |
| 1st | general biology (Plant) | 2 | 2 | |

| | | | |
|------|---|---|---|
| 1st | Principles of Biotechnology 1 | 2 | 2 |
| 1st | Arabic Language | 1 | - |
| 1st | English language | 2 | - |
| 1st | life physics | 2 | 2 |
| 1st | freedom and democracy | 2 | - |
| 1st | Calculators Statistics of life | 2 | - |
| 1st | Arabic Language | 1 | - |
| 1st | Principles of Biotechnology 2 | 2 | 2 |
| 1st | organic chemistry | 2 | 2 |
| 1st | Computer Science (3) | 2 | 2 |
| 1st | English 2 | 1 | - |
| 1 st | general biology(animal) | 2 | 2 |
| 2nd | Biochemistry 1 | 2 | 2 |
| 2nd | Environmental biotechnology | 2 | 2 |
| 2nd | Microbiology 1 | 2 | 2 |
| 2nd | Histology and microscopic preparations | 2 | 2 |
| 2nd | Computer | 2 | - |
| 2nd | English | 2 | - |
| 2nd | Metabolism 2 | 2 | 2 |
| 2nd | Microbiology Physiology | 2 | 2 |
| 2nd | Medical microbiology | 2 | 2 |
| 2nd | Biological control | 2 | 2 |

| | | | |
|-----------------|--|---|---|
| 2nd | Computer 2 | 2 | - |
| 2nd | Freedom and democracy | 2 | - |
| 3rd | Molecular biology | 2 | 2 |
| 3rd | Viruses | 2 | 2 |
| 3rd | Research Method | 2 | 2 |
| 3rd | Animal physiology | 2 | 2 |
| 3rd | Optional Lesson 1 | 2 | 2 |
| 3rd | Biochemical techniques | 2 | - |
| 3rd | English | 2 | - |
| 3rd | Microbiology genetics | 2 | 2 |
| 3rd | Immunity | 2 | 2 |
| 3rd | Fungi | 2 | 2 |
| 3rd | Plant physiology | 2 | 2 |
| 3rd | Optional Lesson 2 | 2 | 2 |
| 3th | Ferments | 2 | 2 |
| 4th | Animal tissue culture | 2 | 2 |
| 4th | Principles of genetic engineering | 2 | 2 |
| 4th | Food Microbiology | 2 | - |
| 4th | research project | 2 | 2 |
| 4th | Pathogenic bacteria | 2 | - |
| 4th | Optional Lesson | 2 | - |
| 4th | English | 2 | 2 |
| 4 th | Bioinformatics | 2 | 2 |

| | | | | |
|-----|----------------------------------|---|---|--|
| 4th | Plant tissue culture | 2 | 2 | |
| 4th | Genetic engineering applications | 2 | 2 | |
| 4th | Industrial microbiology | 2 | 2 | |
| 4th | Algae | 2 | 2 | |
| 4th | Antibiotics | 2 | 2 | |
| 4th | Optional Lesson 2 | 2 | 2 | |

13. Personal Development Planning

Follow up, Support and guide outstanding students and build their mental and scientific capabilities in line with their abilities and orientations in different branches.

14. Admission criteria.

Students who graduate from the sixth middle school accept the biological or applied branch with a rate of at least 80 %, in addition to the possibility of private admission.

15. Key sources of information about the program

One of the most important sources of information for the study program is the reliance on curricula and courses recognized in faculties and scientific departments in European and American universities. In addition to communicating with institutions and state administrations that possess chemical cadres, to set study programs that contribute to the graduation of students with scientific and applied experiences, to work in relevant departments and institutions, as well as support graduate programs.

Curriculum Skills Map

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

| | | | Program Learning Outcomes | | | | | | | | | | | | | | | |
|--------------|-------------------------------|-----------------------------|-----------------------------|----|----|----|-------------------------|----|----|----|-----------------|----|----|----|--|----|----|----|
| Year / Level | CourseTitle | 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 | B1 | B2 | B3 | B4 | C1 | C2 | C3 | C4 | D1 | D2 | D3 | D4 |
| 1st | human rights 1 | C | √ | | | | √ | | | | | | | | | | | |
| 1 st | Computer | C | √ | | | | √ | | | | | | | | | | | |
| 1st | analytical chemistry | C | √ | | | | √ | | | | | | | | | | | |
| 1st | general biology (Plant) | C | √ | | | | √ | | | | | | | | | | | |
| 1st | Principles of Biotechnology 1 | C | √ | | | | √ | | | | | | | | | | | |
| 1st | Arabic Language | C | √ | | | | √ | | | | | | | | | | | |
| 1st | English language | C | √ | | | | √ | | | | | | | | | | | |
| 1st | life physics | C | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 1st | freedom and democracy | C | √ | | | | √ | | | | √ | | | | √ | √ | | |
| 1st | Calculators | | √ | | | | √ | | | | | | | | | | | |
| 1st | Statistics of life | C | | | | | | | | | | | | | | | | |
| 1st | Arabic Language | | | | | | | | | | | | | | | | | |
| 1st | Principles of Biotechnology 2 | C | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 1st | organic chemistry | | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 1st | Computer Science (3) | C | √ | | | | √ | | | | | | | | | | | |
| 1st | English 2 | | | | | | | | | | | | | | | | | |
| 1 st | general biology(animal) | C | √ | | | | √ | | | | √ | | | | √ | | | |
| | | | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |

| | | | | | | | | | | | | | | | | | | |
|-----|--|---|---|---|---|--|---|---|---|--|---|---|--|--|---|---|---|--|
| 2nd | Biochemistry 1 | C | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 2nd | | | Environmental biotechnology | √ | √ | | | √ | √ | | | √ | | | | √ | √ | |
| 2nd | Microbiology 1 | C | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 2nd | | | Histology and microscopic preparations | √ | √ | | | √ | √ | | | √ | | | | √ | √ | |
| 2nd | Computer English | | √ | | | | √ | | | | | | | | | | | |
| 2nd | | | | | | | | | | | | | | | | | | |
| 2nd | Metabolism 2 | C | √ | √ | | | √ | √ | | | √ | √ | | | √ | √ | | |
| 2nd | | | Microbiology Physiology | | | | | | | | | | | | | | | |
| 2nd | Medical microbiology | C | √ | | | | √ | | | | | | | | √ | | | |
| 2nd | | | Biological control | | | | | | | | | | | | | | | |
| 2nd | Computer 2 | C | √ | √ | | | √ | | | | √ | | | | √ | √ | | |
| 2nd | | | Freedom and democracy | | | | | | | | | | | | | | | |
| 3rd | Molecular biology | C | √ | | | | √ | | | | √ | | | | √ | | | |
| 3rd | | | Viruses | √ | √ | | | √ | √ | | | √ | | | | √ | | |
| 3rd | Research Method | C | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 3rd | | | Animal physiology | √ | √ | | | √ | √ | | | √ | | | | √ | √ | |
| 3rd | Optional Lesson 1 | C | √ | √ | | | √ | | | | √ | | | | √ | | | |
| 3rd | | | Biochemical techniques | | | | | | | | | | | | | | | |
| 3rd | English | C | √ | | | | √ | | | | √ | | | | √ | | | |
| 3rd | | | Microbiology genetics | | | | | | | | | | | | | | | |
| 3rd | Immunity | C | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 3rd | | | Fungi | | | | | | | | | | | | | | | |
| 3rd | Plant physiology | C | √ | | | | √ | | | | √ | | | | √ | | | |
| 3rd | | | Optional Lesson 2 | | | | | | | | | | | | | | | |
| 3th | Ferments | C | √ | √ | | | √ | √ | | | √ | √ | | | √ | √ | | |
| 4th | | | Animal tissue culture | √ | √ | | | √ | √ | | | √ | | | | √ | √ | |
| 4th | Principles of genetic engineering | C | √ | | | | √ | √ | | | √ | | | | √ | | | |
| 4th | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|--|--|---|---|--|---|---|--|--|---|---|---|--|--|
| | Food Microbiology | | | | | | | | | | | | | | | | | |
| 4 th | research project | C | √ | | | | √ | | | √ | | | | √ | | | | |
| 4 th | Pathogenic bacteria | | √ | √ | | | √ | √ | | | √ | | | | √ | √ | | |
| 4 th | Optional Lesson | C | √ | | | | √ | | | | | | | | | | | |
| 4 th | English | | | | | | | | | | | | | | | | | |
| 4 th | Bioinformatics | | | | | | | | | | | | | | | | | |
| 4 th | Plant tissue culture | C | √ | √ | | | √ | √ | | √ | √ | | | √ | √ | | | |
| 4 th | Genetic engineering applications | | | | | | | | | | | | | | | | | |
| 4 th | Industrial microbiology | C | √ | √ | | | √ | √ | | √ | √ | | | √ | √ | | | |
| 4 th | Algae | | | | | | | | | | | | | | | | | |
| 4 th | Antibiotics | C | √ | √ | | | √ | √ | | √ | √ | | | √ | √ | | | |
| 4 th | Optional Lesson 2 | | | | | | | | | | | | | | | | | |