

Academic Program Description



University of Anbar

Faculty/Institute: College of Science

Scientific Department: Biology

Academic or Professional Program Name: Bachelor in Biology

Final Certificate Name: Bachelor in Biology

Academic System: Bologna Process

Description Preparation Date: 1/ 11/ 2024

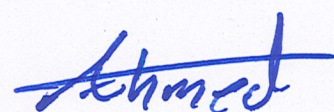
File Completion Date: 1/ 2/ 2025



Signature:

Head of Department Name:

Date: June - 23. 2025



Signature:

Scientific Associate Name:

Date: 23/6/2025

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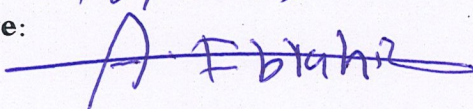
د. أحمد خليل إبراهيم
مسؤول شعبة ضمان الجودة وتقييم الأداء

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 23/6/2025

Signature:





Approval of the Dean

أ.د. عظيم رزقي عبد الغفور
العميد

1. Program Vision

Vision Statement

The academic staff of biology department – Collage of Science at University of Anbar believe that students registered at this department in order to understand the multidiscipline of biology through a variety of patterns of course work, laboratory experiences, research, and teamwork. This combination of instructional methods leads students to equalized understanding of the scientific techniques used by biologists to construct interpretations, develop visions and create theories about the living organisms that populate our planet. Small class sizes within the biology program foster a close working relationship between academic staff and students in an informal and nurturing atmosphere.

2. Program Mission

The academic staff of biology department – Collage of Science pursues a multifaceted charge at University of Anbar. The Program seeks to provide all biology students with ultimate knowledge of biology, as well as a deeper understanding in certain focus field within the biological sciences. The curriculum and advising have been proposed to prepare graduates for their professional future, whether they choose to work as a biologist specializing in a wide variety of special field such as microbiology, botany or wildlife, or to pursue advanced degrees in life sciences or health sciences. The program in this department, also delivers the principal fundamental knowledge of the life sciences to support the Nursing degree, the biomedical Studies degree, and the Associate of Science degree in Forest Technology. In addition, biology courses provide a key laboratory science experience for those students pursuing to accomplish the general education requirements.

3. Program Objectives

1. To provide a comprehensive education in biology that stresses scientific reasoning and problem solving across the spectrum of disciplines within biology
2. To prepare students for a wide variety of post-baccalaureate paths, including graduate school, professional training programs, or entry level jobs in any area of biology
3. To provide extensive hands-on training in electronic technology, statistical analysis, laboratory skills, and field techniques
4. To provide thorough training in written and oral communication of scientific information
5. To enrich students with opportunities for alternative education in the area of biology through undergraduate research, internships, and study-abroad

4. Program Accreditation

Non

5. Other external influences

Non

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	5	16	11%	
College Requirements	8	37	17%	
Department Requirements	33	187	72%	
Summer Training	NA	NA	NA	
Other				

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

7. Program Description			
Year/Level	Course Code	Course Name	Credit Hours

المواد الدراسية - قسم علوم الحياة ٢٤-٢٥					جامعة الانبار كلية العلوم قسم علوم الحياة				
Level One- Second Semester					Level One- First Semester				
ECTS	Hours per Group		Course Name	.No	ECTS	Hours per Group		Course Name	.No
	Lab	Theor				Lab	Theor		
8	2	2	General Botany	1	8	2	2	General Zoology	1
4	----- -	2	Safety and biosecurity	2	5	1 Tut	2	General Math	2
5	1 Tut	2	Biostatistics	3	7	2	2	Analytical Chemistry	3
8	2	2	Organic Chemistry	4	6	2	2	Biophysics	4
3	2	1	Computer Science 1	5	2	-----	2	Human Rights and Freedums	5
2	----- -	2	English Language 1	6	2	-----	2	Arabic Language	6
30	Total ECTS				30	Total ECTS			

Level Two- Second Semester

ECTS	Hours per Group		Course Name	.No
	Lab	Theor		
4	2	2	Entomology II	1
5	2	2	Plant Taxonomy	2
5	2	2	Parasitology	3
2	----- -	2	Baath Party Crimes	4
5	2	2	Microbiology II	5
4	2	2	Biochemistry II	6
3	2	1	Computer Science 2	7
2	-----	2	Arabic Language 2	8
30	Total ECTS			

Level Three- Second Semester

ECTS	Hours per Group		Course Name	.No
	Lab	Theor		
5	2	2	Immunology	1
5	2	2	Environmental Pollution	2
5	2	2	Animal Physiology	3
5	2	2	Mycology II	4
5	2	2	Genetics	5
5	2	2	Soil and Water Microbiology	6
30	Total ECTS			

Level Two- First Semester

ECTS	Hours per Group		Course Name	.No
	Lab	Theor		
4	2	2	Entomology I	1
5	2	2	Plant Anatomy	2
5	2	2	Invertebrates	3
5	2	2	Plant Groups	4
5	2	2	Microbiology I	5
4	2	2	Biochemistry I	6
2	-----	2	English Language 2	7
30	Total ECTS			

Level Three- First Semester

ECTS	Hours per Group		Course Name	.No
	Lab	Theor		
5	2	2	Cytology	1
5	2	2	Ecology	2
5	2	2	Histology	3
4	2	2	Mycology I	4
4	2	2	Physiology Plant	5
5	2	2	Microbial Physiology	6
2	--	2	Principles of Research	7
30	Total ECTS			

Level Four- Second Semester				
ECTS	Hours per Group		Course Name	.No
	Lab	Theor		
5	2	2	Microbial Genetics	1
5	2	2	Industrial Microbiology	2
4	2	2	Toxicology	3
4	2	2	Virology	4
4	2	2	Antibiotics	5
4	2	2	Chordates	6
2	--	2	Bioremediation	7
2	2		Research Graduation	8
30	Total ECTS			

Level Four- First Semester				
ECTS	Hours per Group		Course Name	.No
	Lab	Theor		
5	2	2	Molecular Biology	1
5	2	2	Food Microbiology	2
4	2	2	Enzymology	3
5	2	2	Biotechnology and Genetic Engineering	4
5	2	2	Bacterial Pathogenesis	5
4	2	2	Medical Analysis	6
2	--	2	Biodiversity	7
30	Total ECTS			

8. Expected learning outcomes of the program	
Knowledge	
Identification of Complex Relationships	Graduates will be able to illustrate the structure and function of cellular components and explain how they interact in a living cell.
Skills	
Oral and Written Communication	Graduates will be able to formally communicate the results of biological investigations using both oral and written communication skills.
Laboratory and Field Studies	Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.
Ethics	
Scientific Knowledge	Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.
Data Analyses	Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.
Critical Thinking	Graduates will be able to use critical-thinking and problem-solving skills to develop a research project and/or paper.

9. Teaching and Learning Strategies

Biology is astonishingly wide-ranging subject and is well fortified to deliver. The emphasis of this programme is the whole organism to which everything is correlated, be it the molecules that form proteins or communities of organisms in our ecosystem. It is a common degree – or some it's the breadth of the subject that appeals, for others it's a path to specialization. All students have the opportunity to transfer onto our specialist degrees in Genetics, Zoology, and Microbiology at the end of the first year.

In Level 1 students are exposed to core topics such as General Microbiology, Safety and Biosecurity as well as other topics, appropriate for progression to all programmes within the biology programme group. The majority of programme-specific core topics are covered at Level 2 preparing for research-led topic specialist modules at Levels 3 and 4. The University Biology graduate is therefore instructed to gain how research informs teaching, according to the University and School Mission statements.

At Levels 4 students have the opportunity to choose one or two topics from their module credits with the proviso a range of modules are selected that reflect the complexity of life forms from molecules, through organisms, both plants and animals, to populations to ensure the breadth of knowledge expected of a graduate with a biology degree. This allows students to develop their own wide-ranging interests in organismal biology. Decisions on what to study are made with input from personal tutors. The research ethos is developed and fostered from the start via practicals, which are either embedded in lecture modules or taught in enthusiastic practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students have to pass in order to progress into Level 2, and optional field courses in Levels 4. At Level 4 all students carry out an independent research project, which has a 4-credit library or data analysis project, or laboratory-based project or a combination of all of the above mentioned.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the individual tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to demonstrate skills such as library usage and presentation skills, followed by evaluated exercises (essays and talks) as opportunities to exercise these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

10. Evaluation methods

Quizzes, Reports, Projects, Working in groups, Midterm, final term

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Prof.	Biology	Microbiology			2	
	Biology	Zoology			2	

Assist. Prof.	Biology	Microbiology			4	
	Biology	Zoology			4	
	Biology	Plant			2	
	Biology	Ecology			2	
Lecturer	Biology	Microbiology			3	
	Biology	Zoology			5	
	Biology	Plant			5	
Lecturer	Biology	Biology			18	

Professional Development

Mentoring new faculty members

The department chair usually assigns new faculty a mentor based on research interests and will require that the mentor and mentee meet a certain number of times. Administrators can strive to create an atmosphere that is conducive to mentorship. This might involve events that encourage the sharing of faculty research and by explicitly weighing collaborative work and mentorship in tenure evaluations.

Professional development of faculty members

Faculty development included any participation in verifiable activities (face-to-face, online, blended [face-to-face combined with online elements], self-initiated/self-paced) on any topics that contribute to the enhancement/growth of your knowledge, skills, techniques, awareness or behaviors as an educator, scientist

12. Acceptance Criterion

It is regulated by the Ministry of Higher Education

13. The most important sources of information about the program

University website and College website

14. Program Development Plan

- 1– Department budget should receive a permanent increase to stabilize operations
- 2– Establishment of formal faculty mentoring program
- 3– Website development

- 4– Expanded space for teaching including development of plans for laboratory renovations
- 5– Assign new bachelor staff

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Level 1	Bio-101	General Microbiology I	Basic												
	Bio-102	General Chemistry	Basic												
	UNI-101	Computer Science	Basic												
	Sci-102	Math and Biostatistics	Basic												
	SCI-103	Safety and Bioscurity	Basic												
Level 1	Bio-121	General Microbiology II	Basic												
	Bio-122	Geology and Environmental Science	Basic												
	Sci-121	Biophysics	Basic												
	UNI-121	Human Rights and Democracy	Basic												
	UNI-122	Arabic Language	Basic												
	UNI-123	English Language	Basic												

Level 2	Bio-211	Entomology I	Basic													
	Bio-212	Plant Anatomy	Basic													
	Bio-213	Invertebrates	Basic													
	Bio-214	Plant Groups	Basic													
	Bio-215	Biochemistry I	Basic													
Level 2	Bio-221	Entomology II	Basic													
	Bio-222	Plant Taxonomy	Basic													
	Bio-223	Parasitology	Basic													
	Bio-224	Biochemistry II	Basic													
	Bio-225	Microtechnique	Basic													
	Bio-226	Research Methodology	Basic													
Level 3	Bio-311	Cell Biology	Basic													
	Bio-312	Haematology	Basic													
	Bio-313	Histology	Basic													
	Bio-314	Mycology I	Basic													

Level 3	Bio-315	Plant Physiology	Basic												
	Bio-316	Aquatic and Soil Microbiology	Basic												
	Bio-321	Genetics	Basic												
	Bio-322	Pollution	Basic												
	Bio-323	Animal Physiology	Basic												
	Bio-324	Mycology II	Basic												
	Bio-325	Immunology	Basic												
	Bio-326	Microbial Physiology	Basic												
Level 4	Bio-411	Molecular Biology	Basic												
	Bio-412	pathogenic Bacteriology	Basic												
	Bio-413	Food Microbiology	Basic												
	Bio-414	Biotechnology and Genetic Engineering	Basic												
	Bio-415	Optional 1	Selective												

	Bio-416	Research Project	Basic												
Level 4	Bio-421	Microbial Genetics	Basic												
	Bio-422	Virology	Basic												
	Bio-423	Industrial Microbiology	Basic												
	Bio-424	Optional 2	Selective												
	Bio-425	Optional 3	Selective												
	Bio-426	Research Project	Basic												

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

