

University of Anbar

جامعة الانبار



First Cycle – Bachelor's degree (B.Sc.) – Biology

بكالوريوس علوم - علوم حياة (الدورة الأولى)



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1. **Mission & Vision Statement**

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.

Mission Statement

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.

2. **Program Specification**

Programme code:	BSc-BIO	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

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.

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. Student Learning Outcomes

Biology is the study of the organization and operation of life at the molecular, cellular, organism, and population levels. Graduates obtain information on the historical, technical and social aspects of biology and utilize basic knowledge toward realizing broader concepts. The Department offers a Bachelor of Science in Biology with a concentration in General Biology; Pre-medicine / Pre-dentistry; Biotechnology / Molecular Biology and a minor in Secondary Education that leads to a Public Instruction License. Additionally, the Department offers courses to a large number of students from other departments and supports pre-professional programs. The biology curriculum and experiences are designed to prepare students, in part, for entry into professional health programs, graduate studies, technical careers and education.

Outcome 1

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.

Outcome 2

Oral and Written Communication

Graduates will be able to formally communicate the results of biological investigations using both oral and written communication skills.

Outcome 3

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.

Outcome 4

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.

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem-solving skills to develop a research project and/or paper.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

University of Anbar is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

CGPA of a 4-year B.Sc. degree:

$$\text{CGPA} = [(1^{\text{st}} \text{ module score} \times \text{ECTS}) + (2^{\text{nd}} \text{ module score} \times \text{ECTS}) + \dots] / 240$$

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-101	General Microbiology I	124	76	8.00	C	
Bio-102	General Chemistry	124	76	8.00	C	
Sci-101	Computer Science	79	46	5.00	B	
Sci-102	Math and Biostatistics	78	72	6.00	B	
UNI-101	Safety and Biosecurity	33	42	3.00	S	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-121	General Microbiology II	124	76	8.00	C	Bio-101
Bio-122	Geology and Environmental Science	79	96	7.00	C	
Sci-121	Biophysics	94	56	6.00	B	Sci-102
UNI-121	Human Rights and Democracy	48	27	3.00	S	
UNI-122	Arabic Language	48	27	3.00	S	
UNI-123	English Language	48	27	3.00	S	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
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Bio-211	Entomology I	94	56	6.00	C	
Bio-212	Plant Anatomy	94	56	6.00	C	
Bio-213	Invertebrates	94	56	6.00	C	
Bio-214	Plant Groups	94	56	6.00	C	
Bio-215	Biochemistry I	94	56	6.00	C	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-221	Entomology II	94	56	6.00	C	Bio-211
Bio-222	Plant Taxonomy	94	56	6.00	C	Bio-212
Bio-223	Parasitology	94	56	6.00	C	
Bio-224	Biochemistry II	94	56	6.00	C	Bio-215
Bio-225	Microtechnique	64	36	4.00	C	
Bio-226	Research Methodology	33	17	2.00		

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
Bio-311	Cell Biology	79	46	5.00	C	
Bio-312	Hematology	79	46	5.00	C	
Bio-313	Histology	79	46	5.00	C	
Bio-314	Mycology I	79	46	5.00	C	
Bio-315	Plant Physiology	79	46	5.00	C	
Bio-316	Aquatic and Soil Microbiology	79	46	5.00	C	Bio-101, Bio- 121

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
Bio-321	Genetics	79	46	5.00	C	
Bio-322	Pollution	79	46	5.00	C	Bio-122
Bio-323	Animal Physiology	79	46	5.00	C	Bio-313
Bio-324	Mycology II	79	46	5.00	C	Bio-314
Bio-325	Immunology	79	46	5.00	C	Bio-312
Bio-326	Microbial Physiology	79	46	5.00	C	Bio-101, Bio-121, Bio-316

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
Bio-411	Molecular Biology	79	71	6.00	C	
Bio-412	pathogenic Bacteriology	79	71	6.00	C	
Bio-413	Food Microbiology	79	71	6.00	C	
Bio-414	Biotechnology and Genetic Engineering	79	21	4.00	C	
Bio-415	Optional 1	79	21	4.00	C	
Bio-416	Research Project	78	22	4.00		

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-421	Microbial Genetics	79	71	6.00	C	
Bio-422	Virology	79	71	6.00	C	
Bio-423	Industrial Microbiology	79	71	6.00	C	
Bio-424	Optional 2	79	21	4.00	C	

Bio-425	Optional 3	79	21	4.00	C	
Bio-426	Research Project	78	22	4.00		

8. **Contact**

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