

University of Baghdad

جامعة بغداد



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

بكالوريوس علوم - علوم الحياة



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1. Mission & Vision Statement

Vision Statement

The biology academic staff of the Natural and Behavioral Sciences Division at the University of Baghdad believe that students come to understand the discipline of biology through a combination of course work, laboratory experiences, research, and fieldwork. The combination of instructional methods leads students to a balanced understanding of the scientific methods used by biologists to make observations, develop insights and create theories about the living organisms that populate our planet. Small classes within the biology program foster a close working relationship between the academic staff and the students in an informal nurturing environment.

Mission Statement

The biology academic staff pursues a multifaceted charge at the University of Baghdad. The Program seeks to provide all biology students with fundamental knowledge of biology, as well as a deeper understanding of a selected focus area within the biological sciences. The curriculum and advising have been designed to prepare graduates for their professional future, whether they choose to work as field biologists specializing in botany or wildlife, or to pursue advanced degrees in the life sciences or health sciences. The biology program also provides the necessary fundamental knowledge of the life sciences to support the Ecological Studies, and the Associate of Science degree in Forest Technology. In addition, biology courses provide a key laboratory science experience for those students seeking to complete 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 a wide-spectrum subject and well equipped to be delivered. The program focuses on whole-organism that includes everything from tiny molecules that form proteins to macro organisms, and the communities in different ecosystems, as well as the relation between organisms and environment. Biology is a common subject that might be interesting for others as specialists. All students have the opportunities to be specialists by completing their postgraduate studies in Genetics, Zoology, Botany and Ecology, microbiology. The biology program has four levels;

Level 1 exposes students to the fundamental elements of biology to be able to involve with all biological programs. Level 2 prepares the students to be able to investigate the specific topics for the specialists at the levels 3 and 4. Alumni of biology have been therefore prepared for carrying out researches and teaching.

At Levels 2, 3, and 4, students are free to choose more than half of their module credits. The selected modules must include the essential topics in microbiology, botany, zoology, and ecology in order to expand their scientific knowledge and have an extensive information in biology. This will be a conditional requirement to get their degree in biology. The aim of this process is to allow students to develop their own perspective in biology. The selected modules for all students are determined by tutors.

The research ethos is developed and fostered from the beginning via lab works and practices, which are either embedded in lecture modules or taught in dedicated practical modules, research, seminars and tutorials. There is a mandatory field course in the level 1, which must be passed by the students in order to progress into Level 2. In addition to optional field courses in the levels 2, 3 and 4. At level 4, each student carries out an independent research project that could be 1 credit for library or data analysis project; or 1credit for field or laboratory project.

Academic tutorials are held at levels 1 and 2 by the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and oral presentation skills, followed by exercises, e.g. essays and talks. Using of different teaching and research skills will evitable create a well-rounded vocational graduates to assess their future, either as researchers or teachers

3. Program Objectives

1. Provide a comprehensive knowledge in biology that enhances scientific thinking and problem solving across the wide range of biological fields.
2. Prepare students for a wide variety of post-graduate studies that includes graduate school, professional training programs, or jobs for beginners in any field of biology
3. Provide extensive practical training in biological technology, statistical analysis, laboratory skills, and using field technologies.
4. Provide comprehensive training in written and oral communication of scientific information
5. Provide students with alternative education opportunities in biological area through undergraduate research, internships, and study-abroad

4. Student Learning Outcomes

Biology is the science that deals with how the life can be controlled and regulated at molecular, cellular, organism, and population levels. Graduates are well committed and have a knowledge about technical, scientific aspects and historical background of biology, to realize the broader concepts of biology. The department offers a Bachelor of Science in biology with focusing on general biology that leads to general educational license. In addition, the department offers short advanced training courses to develop careers of different institutions. Biology curricula and experiences are designed to prepare specialists for occupational health, graduate research programs and teaching.

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 communicate, and present the results of biological investigations using both oral and writing skills.

Outcome 3

Laboratory and Field Studies

Graduates will be able to perform many laboratory experiments and field studies, by using scientific equipment and computer technology, with full comprehensive for biosafety and biosecurity protocols

Outcome 4

Scientific Knowledge

Graduates will be able to demonstrate the scientific concept of how knowledge is expanded and developed, including the development of genetic theories, biogenesis theories, 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

Graduate will be able to create research projects and papers using critical thinking and problem- solving techniques.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

The University of Baghdad 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
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Bio-111	General Zoology	109	91	8.00	C	
Bio-112	General Chemistry	79	71	6.00	B	
Bio-113	Biophysics	79	71	6.00	B	
Bio-114	Sustainable Ecosystems	62	13	3.00	C	
Sci-111	Computer	62	13	3.00	S	
UNI-111	Arabic Language	33	17	2.00	S	
UNI-112	Democracy and Human Rights	33	17	2.00	S	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs.

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-121	General Botany	109	91	8.00	C	
Bio-122	Biochemistry	79	71	6.00	B	
Bio-123	Mathematics and Biostatistics	79	71	6.00	B	
Bio-124	Safety and biosecurity	62	13	3.00	C	
Bio-125	Research Methodology	64	36	4.00	C	
Bio-126	Women and Low	10	15	1.00	S	
UNI-121	English Language 1	33	17	2.00	S	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs.

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-211	Invertebrates	64	61	5.00	C	Bio-111
Bio-212	Plant Anatomy	79	71	6.00	C	Bio-121

Bio-213	Phycology	64	61	5.00	C	Bio-121
Bio-214	Cell Biology	64	61	5.00	C	Bio 111, Bio-121
Bio-215	Bacteriology	64	61	5.00	C	
UNI-211	English Language 2	33	17	2.00	S	UNI-121
Bio-216	Baath Regime Crime in Iraq	33	17	2.00	S	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs.

Code	Module	SSW L	USSWL	ECTS	Type	Pre-request
Bio-221	Entomology	64	61	5.00	C	Bio- 111
Bio-222	Plant Taxonomy	64	61	5.00	C	Bio-121
Bio-223	Parasitology	64	61	5.00	C	Bio-215
Bio-224	Ecology	64	61	5.00	C	Bio-114
Bio-225	Genetics	64	61	5.00	C	Bio-215
Sci-221	Computer 2	62	13	3.00	S	Sci-111
UNI-221	Arabic Language	33	17	2.00	S	UNI-121

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs.

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-311	Pathological analyses	64	36	4.00	C	Bio-215,Bio-223
Bio-312	Plant Physiology	79	71	6.00	C	Bio-121
Bio-313	Animal Histology	79	71	6.00	C	Bio-111
Bio-314	Mycology	79	71	6.00	C	Bio-215

Bio-315	Elective 1	64	36	4.00	E	
Bio-316	Elective 2	64	36	4.00	E	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs.

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-321	Archegoniate	64	61	5.00	C	Bio-213
Bio-322	Pollution	64	61	5.00	C	Bio-224
Bio-323	Animal Physiology	79	71	6.00	C	Bio-111,Bio-313
Bio-324	Virology	79	71	6.00	C	Bio-215, Bio-311
Bio-326	Elective 3	64	36	4.00	E	
Bio-327	Elective 4	64	36	4.00	E	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs.

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-411	Molecular Biology	79	71	6.00	C	Bio-214, Bio-225
Bio-412	Pathogenic Bacteriology	79	71	6.00	C	Bio-215
Bio-413	Comparative Anatomy	79	71	6.00	C	Bio- 313
Bio-414	Elective 1	64	36	4.00	E	
Bio-415	Elective 2	64	36	4.00	E	
Bio-416	Research Project 1	64	36	4.00	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs.

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Bio-421	Diversity and Evolution	79	71	6.00	C	Bio-224, Bio-322
Bio-422	Biotechnology	79	71	6.00	C	Bio-411
Bio-423	Immunology	79	71	6.00	C	Bio-311, Bio-324, Bio-412
Bio-424	Elective 3	64	36	4.00	E	
Bio-425	Elective 4	64	36	4.00	E	
Bio-426	Research Project 2	64	36	4.00	C	Bio-416

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