

University of Diyala جامعة ديالى



First Cycle

Bachelor's Degree (B.Sc.) - Biotechnology بكالوريوس - علوم تقانة احيائية



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1. Mission & Vision Statement

Vision Statement

Our vision is to cultivate highly skilled graduates equipped with a robust theoretical foundation and advanced practical competencies, while fostering a commitment to scientific research and community engagement. By emphasizing leadership and innovation in the field of biotechnology, we aim to prepare students to apply biotechnological advancements in addressing critical challenges across agriculture, industry, healthcare, and environmental restoration. In doing so, we aspire to contribute meaningfully to sustainable human development, positioning our graduates as key drivers of progress in these sectors.

Mission Statement

The Department of Biotechnology is committed to promoting excellence in biotechnology education and research through a multidisciplinary framework that integrates key scientific fields, including microbiology, molecular biology, biochemistry, genetics, bioinformatics, and chemical engineering. Our mission is to optimize the application of biotechnological research to serve the needs of the Diyala Province by establishing a distinguished and comprehensive academic department that collaborates with governmental agencies. We strive to offer an education program that adheres to international standards, utilizing state-of-the-art techniques and methodologies, while fostering strategic academic and research partnerships with the industrial, agricultural, and healthcare sectors to drive innovation and address critical societal challenges.

2. Program Specification

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

Biotechnology is a rapidly evolving field in modern biology that applies fundamental biological knowledge to solve problems in industrial, medical, agricultural, and environmental sectors. The term "biotechnology" combines "bio," referring to the use of biological processes, and "technology," which involves utilizing these processes to develop solutions or create useful products. Broadly defined, biotechnology involves using living organisms, cells, or cellular components to produce compounds or achieve targeted genetic improvements for human benefit. The B.Sc. Biotechnology program is a four-year degree that begins with two years of foundational coursework, followed by specialization in the third and fourth years. Students select from a range of advanced subjects and undertake graduate projects, with the curriculum designed to equip them with theoretical knowledge, practical skills, and problem-solving abilities to innovate in the biotechnology field.

3. Program Objectives

The main objectives of the biotechnology programme are:

- To improve the students intellectual, personal, and professional skills to be successful in their careers.
- To develop excellent research tools and capabilities through our resource facilities.
- To catalyze the formation of and participate in cross-disciplinary research programs with industry and agriculture that use our research facilities to solve practical problems of Diyala Province.
- To increase public awareness and understanding of biotechnology and its impacts.
- To provide training activities for students and visiting researchers in biotechnology.
- To become a resource for biotechnology information and education.
- To aid other units in UOD in obtaining support for biotechnology service and research.

4. Student Learning Outcomes

Learning outcomes are statements on what successful students have achieved as the result of learning. These threshold statements of achievement are linked to the knowledge, understanding and skills that a student will have gained on successfully completing a course. After completion of the Biotechnology programme:

- Biotechnologists will be able to conduct and validate experiments to address specific problems independently using scientific methods including experiment design, data analysis and interpretation, and providing valid conclusions.
- Biotechnologist will be able to apply their knowledge of Biotechnology in industry, medicine, agriculture and environmental sciences.
- Biotechnologist will have the essential technical skills required for academic research in the field of Biotechnology.
- Will have a wide range of career options in research, academia, government and private sector.
- How to think and read critically and analyze scientific literature in the field of biotechnology

5. Academic Staff

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6. Credits, Grading and GPA

Credits

University of Diyala 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)

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:

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

7. Curriculum/Modules

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name	SSWL	USSWL	ECTS	Module Type	Prerequisite Module(s) Code
BIOT35027	Molecular Biology	79	71	6.00	C	
BIOT35028	Plant Biotechnology	79	71	6.00	C	
BIOT35029	Gene-chemo biotechnology	79	46	5.00	C	
BIOT35030	Pathogenic Bacteria	79	46	5.00	C	
BIOT35031	Fermentation Technology	79	71	5.00	C	
UOB309	Research Methodology	18	7	2.00	B	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name	SSWL	USSWL	ECTS	Module Type	Prerequisite Module(s) Code
BIOT6033	Microbial Genetics	79	46	5.00	C	
BIOT6034	Food Biotechnology	79	46	5.00	C	
BIOT6035	Immunology	79	46	5.00	C	
BIOT6036	Environmental biotechnology	79	46	5.00	C	
BIOT6037	Antibiotics	79	46	5.00	C	
BIOT6038	Mycology	79	46	5.00	C	

8. Contact

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