Ministry of Higher Education & Scientific Research

Madenat Alelem University

College of Science

Department of Biology

Academic Program Description

2025 - 2026

Academic Program Description Form

University Name: Madenat Alelem University
Faculty/Institute: College of Science
Scientific Department: Department of Biology
Academic or Professional Program Name: Bachelor of Biology
Final Certificate Name: Bachelor in Biology
Academic System: 1st. Year to 3rd. Year Bologna System 4th. Semesters
Description Preparation Date: 28/2/2026
File Completion Date: 29/2/2026

Signature:
Head of Department Name:
Ass. Prof. Dr. Mahmood M. Abdul-Hussein
Date: 1/3/2026

Signature:
Scientific Associate Name:
Ass. Prof. Dr. Mahmood M. Abdul-Hussein
Date: 1/3/2026

Signature:

The file is checked by: Ass. Lect. Abrar Kareim dharey
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:

Date: 1/3/2026

Signature:

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Ass. Prof. Dr. Walid Nassar Raja

Approval of the Dean

1. Program Vision

To be a distinguished department in education and scientific research in the fields of biological sciences, and to take a leading role in serving the community by preparing qualified graduates capable of contributing to the advancement of scientific knowledge and solving health and environmental problems.

2. Program Mission

The Department of Biology seeks to prepare distinguished scientific personnel who possess both theoretical knowledge and practical skills in various fields of life sciences. This enables them to actively contribute to scientific research, education, healthcare, and environmental protection. The department is also committed to providing an academic environment that fosters creativity and innovation, and to encouraging applied research that contributes to community service and sustainable development.

3. Program Objectives

1. Preparing graduates with a strong scientific foundation in zoology, botany, microbiology, and all major branches of life sciences such as genetics, physiology, and ecology.
2. Developing research skills among students and faculty members, and encouraging scientific publication in local and international journals.
3. Serving the community through scientific consultations and applied projects in health, environmental, and agricultural fields.
4. Updating curricula to keep pace with modern scientific and technological developments in life sciences.
5. Enhancing scientific collaboration with counterpart departments inside and outside Iraq through cultural agreements, as well as through seminars, conferences, and joint research programs.
6. Promoting environmental and health awareness within the community and encouraging practices that support environmental sustainability.
7. Preparing qualified graduates to work in education, laboratory analysis, environmental institutions, and scientific research centers.

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4. Program Accreditation
No

5. Other external influences
Labor market, field visits to government departments and students summer training.

6. Program Structure

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

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

1. Faculty

Faculty Members

Name	Degree	Academic Rank	Specialization		Angel	Ex. Lecturer
			General	Specific		
1.Jabbar F. Al-Maadhidi	Ph.D.	Prof.	Biology	Microbial. Physiology	*	
2.Falah A. Attawi	Ph.D.	Prof.	Agricul.	Plant Taxonomy	*	
3.Assif H. Al-Maadhidi	Ph.D.	Prof.	Biology	Pathogenic bacteria	*	
4.Abdul_hameed. M. Hamoody	Ph.D.	Prof.	Biology	Fungi	*	
5.Mahmood M. Al-Madahdawi	Ph.D.	Prof. Ass.	Biology	Freshwater Biology	*	
6.Jawad K. Jabber	Ph.D.	Prof. Ass.	Agricul.	Soil Chemistry	*	
7.Hamzah Y. Essa	Ph.D.	Lecturer	Chemistry	Org. Chemistry		
8.Abdul –Fatah S. Khodair	Ph.D.	Lecturer	Biology	Ecology	*	
9.Sama fakhri Ali	Ph.D.	Lecturer	Biology	Genetic Engineering	*	
10. Labeeb Ahmed Kadhim	Ph.D	Lecturer	Biology	Biotechnology		*
11. Akram Fadil Mahdi	M.Sc.	Lecturer	Biology	Animal Physiology	*	
12. Abrar Kareim dharey	M.Sc.	Lect. Ass.	Biology	Zoology	*	
13. Milad Abdullah Hafedh	M.Sc.	Lect. Ass.	Biology	Animal Physiology	*	
14. Noor Talal Ali	M.Sc.	Lect. Ass.	Chemistry	Inform. Chemistry	*	
15. Noor Jabbar Hattab	M.Sc.	Lect. Ass.	Chemistry	Physic. Chemistry	*	
16. Maarb salih abdulraziq	M.Sc.	Lect. Ass.	Biology	Algology		*
17. Jumah mohammed suhail	B.Sc.	Tech. Ass.	Chemistry	—	*	
18. Azar Majeed Shahyed	B.Sc.	Tech. Ass.	Biology	—	*	
19. Raea k. Abdalazez	B.Sc.	Tech. Ass.	Biology	—	*	
20. Noor Amir qassim	B.Sc.	Tech. Ass.	Biology	—	*	
21. Mayameen Alaa kadhim	B.Sc.	Tech. Ass.	Biology	—	*	

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2. Program Description

Year/Level	Course Code	Course Name	Credit Hours		Credit
			Theo.	Pract.	
4th. Year 1st. Term	MBIO14101	Molecular Biology	2	2	3
	MBIO14102	Food Microbiology	2	2	3
	MBIO14103	Enzymology	2	2	3
	MBIO14104	Biotechnology and Genetic Engineering	2	2	3
	MBIO14105	Pathogenic bacteria	2	2	3
	MBIO14106	Medical Analysis	2	2	3
4th. Year 1st. Term	MBIO14207	Microbial Genetics	2	2	3
	MBIO14208	Industrial Microbiology	2	2	3
	MBIO14209	Toxicology	2	2	3
	MBIO14210	Virology	2	2	3
	MBIO14211	Antibiotics	2	2	3
	MBIO14212	Chordates	2	2	3
	MBIO14213	Graduation Research Project	2	-	2
				Total Credits	38

3. Expected learning outcomes of the program

A-Knowledge	
A1	Students recognize the historical development of life sciences across different fields.
A2	Students categorize the specific requirements for each laboratory analysis.
A3	Students identify and describe the tools and instruments required for each type of analysis.
A4	Students are able to analyze and interpret the results of laboratory examination techniques

B-Skills	
B1	Students recognize the interrelationship between life sciences and other scientific disciplines.
B2	Students are able to identify biological activities and their connections with different organisms.
B3	Students are able to evaluate results using various statistical tests.
B4	Students gain the ability to identify and interpret different types of relationships among living organisms
C-Ethics	
C1	Developing thinking skills according to the student's individual abilities.
C2	Developing a spirit of respect and appreciation for his teachers, those older than him, and those he works with.
C3	Developing a spirit of humane treatment in society
C4	How to properly handle different living organisms.

4. Teaching and Learning Strategies

1. Thinking strategy based on the student's ability.
2. High-level thinking skills strategy.
3. Critical thinking strategy in learning.
4. Brainstorming.

5. Evaluation methods

1. Exams (daily and monthly).
2. Feedback learning.
3. E-Learning.
4. Reports.

6. Professional Development

Mentoring new faculty members

- Academic orientation for new faculty members and its impact on improving university performance.
- Identifying the academic and administrative guidance needs of new faculty members in higher education institutions.
- Developing a proposal for a comprehensive orientation program for new faculty members in line with global academic quality standards.

Professional development of faculty members

- Workshops aimed at improving faculty performance in light of the requirements of digital higher education.
- Enhancing active teaching strategies for faculty members.
- Professional development programs and their role in increasing the research productivity of faculty members.

7. Acceptance Criterion

Central Admission

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8. The most important sources of information about the program

- Textbooks
- E-Books
- Internet scientific Sites

9. Program Development Plan

Review and evaluate the current curricula by forming a specialized committee of faculty members and experts, especially from the government college with which it is twinned (College of Science at Anbar University).

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

Program Skills Outline														
Year/Level	Course Code	Course Name	Basic or Optional	Required program Learning outcomes										
				Knowledge				Skills				Ethics		
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
4th. Year 1st. Term	MBIO14101	Molecular Biology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MBIO14102	Food Microbiology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MBIO14103	Enzymology	Optional	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
	MBIO14104	Biotechnology and Genetic Engineering	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MBIO14105	Pathogenic bacteria	Basic	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MBIO14106	Medical Analysis	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4th. Year 1st. Term	MBIO14207	Microbial Genetics	Basic	✓	✓	✓				✓	✓	✓	✓	✓	✓
	MBIO14208	Industrial Microbiology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MBIO14209	Toxicology	Optional	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MBIO14210	Virology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MBIO14211	Antibiotics	Basic	✓		✓	✓		✓	✓	✓	✓	✓	✓	
	MBIO14212	Chordates	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MBIO14213	Graduation Research Project	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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