

Ministry of Higher Education and Scientific Research

Scientific Supervision and Scientific Evaluation Apparatus

Directorate of Quality Assurance and Academic Accreditation

Accreditation Department



Academic Program and Course Description Guide Academic

Academic Program and Course Description Guide

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Al-Muthanna University

Faculty/Institute: Applied Medical Sciences

Scientific Department: Department of Environmental Health

Academic or Professional Program Name: Bachelor in Environmental Health

Final Certificate Name: Bachelor in Environmental Health

Academic System: Bologna System

Description Preparation Date: 23/12/2025

File Completion Date: 23/12/2025

Signature:

Head of Department Name:

Haider S. Almnehlawi

Date:

Signature:

Scientific Associate Name:

Nawar Jasim Alsalih

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

The Department of Environmental Health is dedicated to disease prevention, improving quality of life, and generating and disseminating knowledge for the sustainable use of the natural and managed environment through theoretical and practical educational fields. The college seeks to attract students interested in environmental health to contribute effectively to serving the community by protecting and improving the environment in Iraq. The Department of Environmental Health aims to prepare trained and qualified personnel capable of transferring the department's scientific expertise to community health and environmental institutions, and to all matters related to human health and its sustainable environment.

2. Program Mission

Contributing to scientific and practical knowledge in both the health and environmental sectors and the interrelationship between them, as well as the practical application necessary to keep pace with the accelerating challenges in Iraqi environmental health through the preparation of specialized personnel in the field of environmental health technologies.

3. Program Objectives

1. To provide education for students at all levels and engage them in the scientific research process to enhance their learning and prepare them to diagnose environmental health problems and work towards finding appropriate solutions.
2. To conduct theoretical and practical research, reports, and surveys that contribute to describing and identifying environmental health problems.
3. To establish cultural and academic relationships with similar environmental health organizations and centers locally and globally.
4. To offer a range of training courses to develop analytical skills, focusing on a deep understanding of environmental health problems that arise in the community.
5. To offer training courses aimed at increasing environmental health awareness in both the private and public sectors.
6. To provide comprehensive education in the field of environmental health, encompassing a wide range of disciplines, with an emphasis on scientific thinking and problem-solving skills through a process that ensures the graduation of qualified, responsible, and responsive students, thus building a foundation for a safe environment.
7. To prepare students for diverse postgraduate studies, including graduate programs in environmental health, professional training, or important positions in environmental health

organizations or regulatory bodies, after providing them with a high-quality curriculum encompassing biology, chemistry, nutrition, physiology, environmental impact assessment, environmental pollutant management, infectious diseases, medical microbiology, and toxicology.

8. To apply the latest high-quality standards in environmental work by identifying appropriate approaches for different environments and providing intensive practical training in electronic technology, statistical analysis, laboratory techniques, and environmental health field methodologies.

9. To develop an action plan that enhances education with the ultimate goal of reducing the production of hazardous and unknown laboratory chemical waste and contributing to environmental problem-solving for the benefit of the community.

10. To foster strong oral and written communication skills among students, enabling them to effectively communicate scientific information and research findings related to environmental health.

4. Program Accreditation

Does the program have program accreditation? And from which agency?

No

5. Other external influences

Is there a sponsor for the program?

No

6. Program Structure				
Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	8	17	7%	Essential
College Requirements	12	69	28.8%	Essential
Department Requirements	28	154	64.2%	Essential
Summer Training	Yes			
Other	None			

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical

Level	Semeste	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se	SSW L hr/se	USS WL hr/se	SWL hr/se	ECT S	Module Type	Prerequisite Module(s)	
							CL (hr/w)	Lect (hr/w)	ab (hr/w)	Pr (hr/w)	Tut (hr/w)	mn (hr/se)								
UGI	One	1	AMS001	General Biology	علم الاحياء العام	English	2		2	1	1		3	93	132	225	9.00	B		
		2	ENH1102	Environmental Health Science	علم الصحة البيئية	English	2		2	1	1		3	93	82	175	7.00	B		
		3	AMS002	Analytical Chemistry	الكيمياء التحليلية	English	2		2	1	1		3	93	82	175	7.00	B		
		4	UNI006	Human Rights and Democracy	الديمقراطية وحقوق الانسان	Arabic	2						3	33	17	50	2.00	S		
		5	UNI004	Computer I	الحاسيات I	English	1		2				3	48	27	75	3.00	S		
		6	UNI003	Arabic Language	اللغة العربية	Arabic	2						3	33	17	50	2.00	S		
							Total	11				3	3	0	18	393	357	750	30.00	
	Two	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se	SSW L hr/se	USS WL hr/se	SWL hr/se	ECT S	Module Type	Prerequisite Module(s)	
							CL (hr/w)	Lect (hr/w)	ab (hr/w)	Pr (hr/w)	Tut (hr/w)	mn (hr/se)								
		1	AMS004	Human Cytology	علم خلية الانسان	English	2		2	1	1		3	93	82	175	7.00	B		
		2	AMS003	Medical Physics	الفيزياء الطبية	English	2		2	1	1		3	93	82	175	7.00	B		
		3	ENH1218	Ecology	علم البيئة	English	2		2	1	1		3	93	82	175	7.00	C		
		4	ENH1209	Public Health	صحة عامة	English	2						3	33	17	50	2.00	C		
		5	UNI001	English language I	اللغة الانكليزية I	English	2						3	33	17	50	2.00	S		
UGII	Three	6	ENH1219	Organic Chemistry	كيمياء عضوية	English	2		2		1		3	78	47	125	5.00	B		
						Total	12	0	8	3	4	0	18	423	327	750	30.00			
		No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se	SSW L hr/se	USS WL hr/se	SWL hr/se	ECT S	Module Type	Prerequisite Module(s)	
							CL (hr/w)	Lect (hr/w)	ab (hr/w)	Pr (hr/w)	Tut (hr/w)	mn (hr/se)								
		1	ENH23111	Microbiology	علم الاحياء الدقيقة	English	2		2	1	1		3	93	82	175	7.00	C		
		2	ENH23012	Toxicology	علم السموم	English	2		2		1	1	3	78	97	175	7.00	C		
		3	AMS008	Principals of Immunology	اساسيات علم المناعة	English	2		2	1	1		3	93	57	150	6.00	C		
	Four	4	AMS005	Biochemistry	الكيمياء الحيوية	English	2		2	1	1		3	93	57	150	6.00	B		
		5	UNI0010	Crimes of Allbath Regime	جرائم نظام البعث	Arabic	2						3	33	17	50	2.00	S		
		6	UNI002	English language II	اللغة الانكليزية II	English	2						3	33	17	50	2.00	S		
						Total	12	0	8	3	4	0	18	423	327	750	30.00			
		No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se	SSW L hr/se	USS WL hr/se	SWL hr/se	ECT S	Module Type	Prerequisite Module(s)	
							CL (hr/w)	Lect (hr/w)	ab (hr/w)	Pr (hr/w)	Tut (hr/w)	mn (hr/se)								
		1	ENH24116	Human Physiology	علم وظائف الاعضاء البشرية	English	2		2			1		3	78	47	125	5.00	C	
Four	2	AMS009	Bacteriology	علم البكتيريا	English	2			2	1	1	3	93	57	150	6.00	C			
	3	ENH24118	Parasitology	علم الطفيليات	English	2		2			1	3	78	72	150	6.00	C			
	4	ENH24019	Environmental Chemistry	الكيمياء البيئية	English	2		2	1	1		3	93	57	150	6.00	C			
	5	ENH24020	Occupational Health & Safety	الصحة والسلامة المهنية	English	2				1	1	3	63	37	100	4.00	C			
	6	UNI005	Computer II	الحاسيات II	English	1		2				3	48	27	75	3.00	S			
					Total	11	0	10	3	5	0	18	453	297	750	30.00				

Level	Semeste	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/se	SSW L hr/se	USS W L hr/se	SWL hr/se	ECT S	Module Type	Prerequisite Module(s)
UGIII	Five	1	AMS0010	Medical Molecular Biology	علم البيولوجي الجزيئي الطبي	English	2		2	1	1	1	3	94	56	150	6.00	B	
		2	ENH35122	Nutrition	تغذية	English	2		2			2	3	93	32	125	5.00	C	
		3	ENH35123	Radiation & Human Health	الاشعاع وصحة الانسان	English	2		2			2	3	93	32	125	5.00	C	
		4	ENH35124	Environmental Health Legislation	تشريعات الصحة البيئية	English	2						3	33	17	50	2.00	S	
		5	AMS006	Medical virology	علم الفيروسات طبية	English	2		2	1	1	1	3	94	56	150	6.00	C	
		6	ENH36027	Air Quality & Pollution	نوعية وتلوث الهواء	English	2		2	1	2		3	108	42	150	6.00	C	
						Total	12	0	10	3	8	2	18	515	235	750	30.00		
	Six	1	ENH36126	Biodiversity	التنوع الاحيائي	English	2		2			2	3	93	57	150	6.00	C	
		2	ENH36031	Water Quality & Pollution	نوعية وتلوث الماء	English	2		2	1	1	1	3	94	56	150	6.00	C	
		3	ENH36028	Food Safety	سلامة الطعام	English	2		1		1	1	3	64	61	125	5.00	C	
		4	ENH36129	Epidemiology & Community health	الوبائية وصحة المجتمع	English	2		1		1	1	3	64	61	125	5.00	C	
		5	AMS007	Biostatistics	احصاء الحيوي	English	2				2		3	63	12	75	3.00	B	
		6	ENH 36130	Biotechnology	تقنيات حيوية	English	2		1		1		3	63	62	125	5.00	C	
						Total	12	0	7	1	8	3	18	441	309	750	30.00		
UGIV	Seven	1	ENH47031	Bioremediation	المعالجة الحيوية	English	2		2			1	3	94	81	175	7.00	C	
		2	ENH47132	Serology & Vaccines	علم المصلول واللقاحات	English	2		2			2	3	93	82	175	7.00	C	
		3	ENH47033	Solid & Hazardous Waste Management	إدارة المخلفات الخطرة والصلبة	English	2		2		1	1	3	79	71	150	6.00	C	
		4	ENH47134	Environmental Impact Assessment	تقييم الأثر البيئي	English	2		2		1	1	3	79	71	150	6.00	C	
		5	UNI007	Ethics	اخلاقيات المهنة	English	1						2	17	8	25	1.00	C	
		6	AMS0011	Research Project I	مشروع التخرج I	English	2		1	1		1	3	64	11	75	3.00	C	
						Total	11	0	9	1	6	4	17	426	324	750	30.00		
	Eight	1	ENH48036	Quality Control	السيطرة النوعية	English	2		2			1	3	78	97	175	7.00	C	
		2	ENH48137	Water & wastewater Treatment	معالجة المياه وصرف الصحي	English	2		2			2	3	94	81	175	7.00	C	
		3	ENH48138	Environmental toxins	السموم البيئية	English	2		2		2		3	93	82	175	7.00	C	
		4	ENH48039	Transmissible Diseases	الأمراض المعدية	English	1		2		1	1	3	64	86	150	6.00	C	

8. Expected learning outcomes of the program
Knowledge
1. Basic scientific knowledge 2. Resource and pollutant management 3. Health and food safety regulations 4. Environmental legislation and policies
Skills
1. Sampling: Proficiency in scientific methods for collecting water, air, and soil samples, as well as food samples, to ensure their representativeness. 2. Operation of Measuring Instruments: Ability to operate noise meters, radiation detectors, and air quality monitoring devices (such as gas sensors). 3. Inspection and Control: Skill in conducting inspections of restaurants, factories, and hospitals to ensure compliance with health standards. 4. Risk Assessment: Ability to identify potential hazards in a given environment and estimate their impact on public health. 5. Laboratory Analysis: Performing microbiological and chemical tests on samples and interpreting the results according to standard criteria. 6. Geographic Information Systems (GIS): Advanced skills in mapping disease distribution or pollution sources to link geographic location to health factors.
Ethics
1. Protecting lives: Believing that the goal is to prevent disease before it occurs and to protect the human right to live in a clean environment. 2. Scientific integrity: Reporting the results of analyses and field observations accurately and objectively, without falsification, even if the results conflict with the interests of certain parties. 3. Environmental justice: Striving to ensure the protection of all segments of society from pollution, regardless of their economic status or geographical location.

9. Teaching and Learning Strategies

1. Problem-Based Learning (PBL)

1. This strategy is considered the most important in environmental health. A realistic scenario is presented (such as a disease outbreak in a village or a chemical spill in a factory), and students are asked to:

- Identify the source of the pollution.
- Analyze the health risks.
- Develop an emergency plan and sustainable solutions.

2. Field-Based Learning: Since the environment is the real laboratory, this strategy includes:

- Field visits to water treatment plants, landfills, and food processing facilities.
- Applied laboratories: Learning how to analyze samples chemically and biologically using modern techniques.

For the computer science subject, teaching methods are based on computer programs such as Office programs, especially PowerPoint. As for the English language subject, it is based on communicative learning, work groups, and homework assignments.

10. Evaluation methods

Test assessment grade / Lab assessment grade / Reports and projects grade / Homework assessment grade / Project assessment grade / Midterm exam assessment grade

Academic Rank	Specialization		Number of the teaching staff	
	General	Special	Staff	Lecturer
Professor	Biology	Environment and pollution	1	-
Assistant professor	Biology	Environment and pollution	1	-
Assistant professor	Chemistry	Non-organic Chemistry	1	-
Lecturer	Agricultural Sciences	Gardening	1	-

Lecturer	Agricultural Sciences	Soil and water resources	1	-
Lecturer	Biology	Ecology	2	-
Assistant lecturer	Agricultural	Plant production	1	-
Assistant lecturer	Environment pollution	Environment pollution	1	-
Assistant lecturer	Environment and pollution	Microbiology	1	-
Assistant lecturer	Biology	Microbiology	1	-
Assistant lecturer	Biology	Plant biology	1	-
Assistant lecturer	Law	Special Law	1	-
Assistant lecturer	Geography	Geography	2	-
Assistant lecturer	Oil and Gas Technologies	Oil and Gas Technologies	1	-

Professional Development
Mentoring new faculty members
The journey of a new university professor begins with the transition from the role of "researcher" to that of "leader," where their professional development extends beyond simply deepening their academic specialization. It encompasses mastering modern teaching techniques that transform students from passive recipients to active participants. This path demands a smart engagement with educational technology and the development of balanced strategies that ensure the continued production of rigorous research alongside teaching responsibilities. Over time, the professor hones their soft skills in communication and academic mentoring, evolving from a mere "transmitter of information" to an "inspiration for the next generation," firmly believing that true development is a lifelong learning process that doesn't end with obtaining an academic degree.
Professional development of faculty members
The professional development of faculty members is an ongoing transformation journey that begins by bridging the gap between specialized academic knowledge and the art of communicating it effectively. It starts by equipping professors with modern teaching tools, enabling them to move beyond the role of

lecturer to that of facilitator. This journey then extends to honing research capabilities to meet global standards in publication and innovation.

This development doesn't stop at the cognitive level; it encompasses digital transformation through the integration of smart technologies in classrooms and the development of academic leadership skills that empower them to guide students and manage the educational institution with a contemporary vision. In short, it is a process of "self-renewal" that ensures academics remain relevant to the changing times and the needs of future generations.

11. Acceptance Criterion

Central by the Ministry of Higher Education and Scientific Research in Iraq

12. The most important sources of information about the program

- 1- Ministry of Higher Education and Scientific Research in Iraq
- 2- Kerbella University
- 3- Harvard University
- 4- Internet

13. Program Development Plan

The Environmental Health Department's development plan centers on forging an academic identity that combines modern curriculum with practical application. This begins with updating courses to include climate change and sustainability issues, with a focus on shifting education from classrooms to smart laboratories and fieldwork.

The plan aims to deepen integration with the college by building research partnerships that address local environmental problems and leveraging digital technologies, such as Geographic

	Information Systems (GIS), to track health risks. This path culminates in achieving academic accreditation standards and graduating qualified professionals for the job market, thus strengthening the department's role as a leading and consultative body serving community health and the environment. It also involves establishing partnerships with employers to align graduates with the job market's needs for these scientific specializations. The department also plans to offer postgraduate (Master's) studies upon the graduation of its first cohort.
Program Skills Outline	Learning outcomes required from the program
1. Hard Skills: The program produces graduates proficient in monitoring and measurement, from operating advanced laboratory equipment for pollutant analysis to using environmental modeling systems and artificial intelligence to predict health risks before they occur. 2. Strategic Skills: The program's outcomes are embodied in the graduate's ability to design sustainability policies. They go beyond simply identifying problems; they possess the skills to develop environmental remediation plans, manage hazardous waste, and ensure food and water safety according to international standards. 3. Soft Skills: The program aims to cultivate successful environmental negotiators with effective communication skills to persuade decision-makers of the merits of environmental solutions. They	First: Educational and training outcomes, aimed at preparing graduates with advanced analytical skills, capable of using modern technologies to monitor pollutants and manage environmental crises, making them the top choice in the job market (health, industrial, and regulatory sectors). Second: Research and community outcomes, represented by the production of applied research that offers innovative solutions to pollution problems and resource sustainability, and transforming the department into a consulting center that supports decision-makers on pressing environmental issues. Third: Institutional outcomes, ensuring the department obtains academic accreditation and develops a smart work environment based on advanced laboratories, thus raising the college's

are also capable of working within integrated medical and engineering teams, while adhering fully to professional ethics and legal regulations. 4. Creative Skills: The final product is a researcher capable of self-learning and innovation. They possess rigorous scientific research tools to devise unconventional solutions to local environmental problems, making them a flexible individual capable of keeping pace with the rapid advancements in public health sciences.	ranking and enhancing its academic reputation both locally and internationally.
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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	C1	C2
Year 1/ Level 1	AMS001	General Biology	B	√					√	√	√	√
	ENH1102	Environmental Health Science	B	√	√				√	√	√	√
	AMS002	Analytical Chemistry	B	√				√	√	√	√	√
	UNI006	Human Rights and Democracy	S				√				√	√
	UNI004	Computer I	S			√			√	√	√	
	UNI003	Arabic Language I	S				√			√		√
Year 1/ Level 2	AMS004	Human Cytology	B	√				√	√	√	√	√
	AMS003	Medical Physics	B	√	√			√	√	√	√	√
	ENH1218	Ecology	C	√	√				√	√	√	√
	ENH1209	Public Health	C	√				√	√	√	√	√
	UNI001	English language I	S			√				√	√	

	ENH1219	Organic Chemistry	B			√				√	√	
Year 2/ Level 1	ENH23111	Microbiology	C	√	√			√		√	√	√
	ENH23012	Toxicology	C	√				√	√	√	√	√
	AMS008	Principals of Immunology	C	√	√			√	√	√	√	√
	AMS005	Biochemistry	B		√				√	√	√	√
	UNI0010	Crimes of Allbath Regime	S			√				√	√	
	UNI002	English language II	S				√					
Year 2/ Level 2	ENH24116	Human Physiology	C	√				√	√	√	√	√
	AMS009	Bacteriology	C	√	√			√		√	√	√
	ENH24118	Parasitology	C	√	√			√	√		√	√
	ENH24019	Environmental Chemistry	C	√				√	√		√	√
	ENH24020	Occupational Health & Safety	S	√	√			√	√		√	√
	UNI011	Arabic Language II	S			√			√	√	√	
	UNI005	Computer II	S			√			√	√	√	

Year 3/ Level 1	AMS0010	Medical Molecular Biology	B	√				√	√		√	√
	ENH35122	Nutrition	C	√				√	√	√	√	√
	ENH35123	Radiation & Human Health	C	√	√			√	√		√	√
	ENH35124	Environmental Health Legislations	S	√	√			√	√	√	√	√
	AMS006	Medical virology	C							√	√	√
	ENH36027	Air Quality & Pollution	C	√	√			√	√	√	√	√
Year 3/ Level 2	ENH36126	Biodiversity	C	√					√	√	√	√
	ENH36031	Water Quality & Pollution	C	√				√	√	√	√	√
	ENH36028	Food Safety	C	√	√			√	√	√	√	√
	ENH36129	Epidemiology &Community health	C	√	√			√	√		√	√
	AMS007	Biostatistics	B	√					√		√	
	ENH 36130	Biotechnology	B	√	√			√	√		√	√
Year 4/ Level 1	ENH47031	Bioremediation	C	√	√			√	√		√	√

	ENH47132	Serology & Vaccines	C	√	√			√	√	√	√	√
	ENH47033	Solid & Hazardous Waste Management	C	√				√	√		√	√
	ENH47134	Environmental Impact Assessment	C	√				√	√	√	√	√
	UNI007	Ethics	C							√		√
	AMS0011	Research Project I	C	√	√			√	√	√	√	√
Year 4/ Level 2	ENH48036	Quality Control	C	√	√			√	√		√	√
	ENH48137	Water & wastewater Treatment	C	√	√			√	√		√	√
	ENH48138	Environmental toxins	C	√	√			√	√		√	√
	ENH48039	Transmissible Diseases	C	√	√			√	√	√	√	√
	AMS0012	Research Project II	C	√	√			√	√	√	√	√