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

2024

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.

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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

University Name: Mosul

Faculty/Institute: The Environmental Sciences College

Scientific Department: Environmental Science

Academic or Professional Program Name: Bachelor's Environmental Science

Academic System:

Description Preparation Date:

File Completion Date:

Signature:

Head of Department Name:

Prof. Dr. Mohammad Ibrahim Khalil

Date:1/10/2024

Signature:

Scientific Associate Name:

Dr, Mohammad Waleed

Date:1/10/2024

كلية العلوم البيئية
قسم علوم البيئة
رسمي

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Hasan Jamal Abdullah

Date:

Signature:

جامعة الموصل
كلية العلوم البيئية
شعبة ضمان الجودة وتقويم الاداء

Approval of the Dean

1. Program Vision

The department strives to create a scientific and educational environment that attracts outstanding students who are passionate about the field and its programs. The aim is to equip them with essential scientific skills and values to become successful individuals in their personal and professional lives, and to instill in them a sense of national responsibility by applying their specialization to serve the community and the labor market. Furthermore, the department seeks to graduate students who contribute to environmental preservation for the well-being of society.

2. Program Mission

The department is committed to enhancing scientific awareness by offering opportunities throughout the environmentalist's academic journey and social engagement. The mission focuses on developing the graduate's personal skills to sustain and improve key environmental elements—air, water, and soil—which are vital components of daily life. The department also aims to prepare a generation well-equipped with top-tier environmental science programs, supported by a broad scientific foundation to provide learning and practical experience opportunities. Additionally, it prepares students to be valuable contributors to society and the workforce, capable of facing challenges and fulfilling their responsibilities as productive members of the community.

The department emphasizes that graduates should achieve the goals of sustainable development within the country, aspiring to make Nineveh and other Iraqi cities among the best regions globally—both for current and future generations—while also preserving biodiversity.

3. Program Objectives

To provide students with comprehensive knowledge in various branches of environmental science.

To develop students' environmental skills and scientific background in preparation for higher education, scientific research, or professional practice in the field, enabling them to understand their environment and identify environmental challenges.

To ensure graduates possess a blend of technical and environmental knowledge to achieve their goals.

To prepare graduates with scientific confidence to work effectively in their field of specialization.

To contribute to equipping students with the scientific knowledge and skills necessary for success in their professional lives across various state institutions.

To train dynamic and knowledgeable staff with specialized philosophies and the level of information and skills required for academic and professional success.

To ensure graduates have an advanced scientific understanding of the relationship between humans and their environment, enabling them to apply scientific advancements, modern technologies, policies, and programs to solve complex environmental problems

4. **Program Accreditation**

1.Qualifying the department's students to be familiar with the theoretical and practical aspects of a number of sciences, including life sciences, soil, air, and water, as well as the ability to deal with modern technologies used in the environmental field, ensuring a highly accurate database for environmentalists to deal with the environment.

2. Researching recent topics and identifying problems that need more in-depth scientific research.

5. Other external influences
not exist

6. Program Structure				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements	**46**	**46**		**Basic Course**
College Requirements	**yes**			
Department Requirements	**yes**			
Summer Training	**yes**			
Other				

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

7. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/ 1st / 1st course	Env101	General Physics	**theoretical**	**practical**
2023-2024/ 1st / 1st course	Env102	General Biology	**theoretical**	
2023-2024/ 1st / 1st course	Env103	General Geology	**theoretical**	**practical**
2023-2024/ 1st / 1st course	Env104	Organic Chemistry	**theoretical**	**practical**
2023-2024/ 1st / 1st course	Env105	Arabic Language	**theoretical**	
2023-2024/ 1st / 1st course	Env106	Freedom & Democracy	**theoretical**	

2023-2024/ 1st /2ndcourse	Env107	Biostatistics	**theoretical**	**practical**
2023-2024/ 1st /2ndcourse	Env108	Analytical Chemistry	**theoretical**	**practical**
2023-2024/ 1st /2ndcourse	Env109	Soil Science	**theoretical**	**practical**
2023-2024/ 1st /2ndcourse	Env110	Ecology	**theoretical**	**practical**
2023-2024/ 1st /2ndcourse	Env111	English Language	**theoretical**	
2023-2024/ 1st /2ndcourse	Env112	Computer	**theoretical**	**practical**
2023-2024/ 2nd / 1st course	Env201	**Genetics**	**theoretical**	**practical**
2023-2024/ 2nd / 1st course	Env202	**Plant Ecology**	**theoretical**	**practical**
2023-2024/ 2nd / 1st course	Env203	**Principle of pollution**	**theoretical**	**practical**
2023-2024/ 2nd / 1st course	Env204	**Environmental Chemistry**	**theoretical**	**practical**
2023-2024/ 2nd / 1st course	Env205	**Environmental Geology**	**theoretical**	**practical**
2023-2024/ 2nd / 1st course	Env206	**Environmental Systems and Rules**	**theoretical**	
2023-2024/ 2nd /2ndcourse	Env207	**Environmental Microbiology**	**theoretical**	**practical**
2023-2024/ 2nd /2ndcourse	Env208	**Plant Taxonomy**	**theoretical**	**practical**
2023-2024/ 2nd /2ndcourse	Env209	**Animal Taxonomy**	**theoretical**	**practical**
2023-2024/ 2nd /2ndcourse	Env210	**Climatology**	**theoretical**	
2023-2024/ 2nd /2ndcourse	Env211	**Freedom and Democracy**	**theoretical**	

2023-2024/ 2nd /2ndcourse	Env212	**Biochemistry**	**theoretical**	**Practical**
2023-2024/ 3rd /1st course	Env301	**Air Pollution**	**theoretical**	
2023-2024/ 3rd /1st course	Env302	**Aquatic environment**	**theoretical**	**practical**
2023-2024/ 3rd/1st course	Env303	**Animal Environment**	**theoretical**	**practical**
2023-2024/ 3rd /1st course	Env304	**Biodiversity**	**theoretical**	**practical**
2023-2024/ 3rd /1st course	Env305	**Environmental Physiology**	**theoretical**	
2023-2024/ 3rd /1st course	Env306	**Environmental Technology**	**theoretical**	
2023-2024/ 3rd /2nd course	Env307	**Water Pollution**	**theoretical**	**practical**
2023-2024/ 3rd /2nd course	Env308	**Molecular Biology**	**theoretical**	**practical**
2023-2024/ 3rd /2nd course	Env309	**Entomology**	**theoretical**	**practical**
2023-2024/ 3rd /2nd course	Env310	**Soil Pollution**	**theoretical**	**practical**
2023-2024/ 3rd /2nd course	Env311	**Phycology**	**theoretical**	
2023-2024/ 3rd /2nd course	Env312	**radioactive pollution**	**theoretical**	**practical**
2023-2024/ 4th /1st course	Env401	**graduation project**	**theoretical**	**practical**
2023-2024/ 4th /1st course	Env402	**sustainable development**	**theoretical**	
2023-2024/ 4th /1st course	Env403	**Remote sensation**	**theoretical**	
2023-2024/ 4th /1st course	Env404	**Environmental Health**	**theoretical**	

2023-2024/ 4th /1st course	Env405	**Renewable energy**	**theoretical**	
2023-2024/ 4th /2nd course	Env407	**graduation project**	**theoretical**	**Practical**
2023-2024/ 4th /2nd course	Env408	**Green Chemistry**	**theoretical**	
2023-2024/ 4th /2nd course	Env409	**Epidemiology**	**theoretical**	**practical**
2023-2024/ 4th /2nd course	Env410	**Environmental planning and management**	**theoretical**	
2023-2024/ 4th /2nd course	Env411	**Environmental economics**	**theoretical**	

8. **Expected learning outcomes of the program**	
Knowledge	
Learning Outcomes 1	Learning Outcomes Statement 1 1. Qualifying students of the Department of Environmental Sciences to know information related to the environment, enabling the graduate to employ this knowledge in the field of life 2. Developing students' knowledge their horizons of thinking by encoura scientific research to obtain the greatest amount of information for application in the field of the environment.
Skills	
Learning Outcomes 2	Learning Outcomes Statement 2

	1. The ability to identify abnormal deviations in the levels and nature of standards used to determine environmental conditions. 2- The ability to determine environmental factors and the extent of their impact on human health and its surroundings.
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4 1. Developing students' abilities to share ideas 2. Urge them to find solutions and share them
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

1. Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems
2. Applying the topics studied theoretically at the practical level in various laboratories affiliated with the environmental departments
3. Visiting practical laboratories by academic staff
4. Sending students for training in relevant state departments in order to gain experiences that simulate reality

10. Evaluation methods

1. Daily exams
2. Semester and final exams.

3. Participation scores for discussion questions for academic topics.

4. Grades for homework

5. Submitting and discussing reports

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Biology	Molecular biology			Staff	
Assistant Professor	Biology	Environmental Pollution			Staff	
Assistant Professor	Physics	Materials science			Staff	
Assistant Professor	Veterinary medicine	Veterinary public health			Staff	
Assistant Professor	Biology	Biochemistry			Staff	
Lecture	Biology	Environmental Pollution			Staff	
Lecture	Biology	Environmental Microbiology			Staff	
Lecture	Biology	Plant			Staff	
Lecture	Biology	Biology			Staff	
Lecture	Biology	Biotechnology			Staff	

Lecture	Geology	Fossils and stratigraphy			Staff	
Lecture	Chemistry	chemophysical			Staff	
Lecture	Computer	computer			Staff	
Lecture	Geology	Sediments			Staff	
Lecture	Chemistry	chemophysical			Staff	
Lecture	Biology	Botany			Staff	

Professional Development
Mentoring new faculty members
Professional development for faculty members and new teachers through holding workshops and courses on a regular basis
Professional development of faculty members
1. Developing students' abilities in research and investigation by asking students to write scientific reports and recent discussion sessions, as well as urging students to consult sources, books, and magazines as a source of information. 2. Enabling students to prepare models that include various materials related to the environment 3. Enabling students to pass job interviews. 4. Enabling students to diagnose the causes of environmental degradatio 5. Enabling students to continue self-development after graduation

12. Acceptance Criterion

Central/according to the requirements of the Ministry of Higher Education and Scientific Research

13. The most important sources of information about the program

1.The central library in the college.

2. Internet information network.

3.Experiences of Arab and international universities.

4. Current curricula

14. Program Development Plan
1- Using new concepts in the field of the environment and using electronic devices to detect defects and try to address them 2. Direct access to the problems facing the environment through expanding field visits to places where pollutants are present

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	B4	C1	C2	C3	C4
First Year First Semester	Env101	General Physics	Basic	√											
	Env102	General Biology	Basic	√				√				√			
	Env103	General Geology	Basic	√					√				√		
	Env104	Organic Chemistry	Basic	√				√				√			
	Env105	Arabic Language	Basic			√					√				√
	Env106	Freedom & Democracy	Basic			√					√				√
First Year Second Semester	Env107	Biostatistics	Basic	√					√				√		
	Env108	Analytical Chemistry	Basic	√					√			√			
	Env109	Soil Science	Basic	√						√				√	
	Env110	Ecology	Basic	√				√				√			

	Env111	English Language	Basic				√			√				√	
	Env112	Computer	Basic	√					√				√		
Second Year First Semester	Env201	Genetics	Basic	√				√					√		
	Env202	Plant Ecology	Basic	√					√				√		
	Env203	Principle of pollution	Basic	√				√					√		
	Env204	Environmental Chemistry	Basic	√				√				√			
	Env205	Environmental Geology	Basic		√				√				√		
	Env206	Environmental Systems and Rules	Basic	√				√				√			
Second Year Second Semester	Env207	Environmental Microbiology	Basic		√				√					√	
	Env208	Plant Taxonomy	Basic			√				√			√		
	Env209	Animal Taxonomy	Basic		√			√					√		

	Env210	Climatology	Basic	√				√				√			
	Env211	Freedom and Democracy	Basic			√				√				√	
	Env212	Biochemistry	Basic	√				√				√			
Third Year First Semester	Env301	Air Pollution	Basic	√				√				√			
	Env302	Aquatic environment	Basic		√				√				√		
	Env303	Animal Environment	Basic		√				√				√		
	Env304	Biodiversity	Basic			√					√			√	
	Env305	Environmental Physiology	Basic			√					√			√	
	Env306	Environmental Technology	Basic	√					√			√			
Third Year	Env307	Water Pollution	Basic			√				√				√	
	Env308	Molecular Biology	Basic	√				√				√			

Second Semester	Env309	Entomology	Basic	√				√				√			
	Env310	Soil Pollution	Basic		√					√			√		
	Env311	Phycology	Basic			√				√				√	
	Env312	radioactive pollution	Basic	√				√				√			
Fourth Year First Semester	Env401	graduation project	Basic	√				√				√			
	Env402	sustainable development	Basic	√				√				√			
	Env403	Remote sensation	Basic		√				√				√		
	Env404	Environmental Health	Basic	√				√				√			
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	Env408	Green Chemistry	Basic		√				√			√			
	Env409	Epidemiology	Basic		√					√				√	

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	Env411	Environmental economics	Basic	√				√				√			

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

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