Program Catalogue 2025-2026

University of Mosul

Third Cycle – Bachelor's Degree (B.Sc.) – Environmental Engineering

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1. Mission & Vision Statement

Vision Statement

Leadership and excellence in environmental engineering in education, research, and application

Mission Statement

Consolidating the role of environmental engineering in community, raising the level of the graduate and developing his ability to compete in the labor market with high professionalism and employing it in achieving comprehensive and sustainable development.

2. Program Specification

Programme code:	BSc-ENV	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full Time

In order to meet the program graduate outcomes, the department has developed a well-structured curriculum. The department adopts Bologna process system of study.

A part from acquiring discipline specific knowledge, the curriculum requires that graduates have sufficient knowledge of calculus, statistics, chemistry, Microbiology as well as an ability to apply this knowledge to the understanding of the core Environmental Engineering concepts, including analysis, design and realization of such concepts. The students are also required to be sufficiently familiar with computer applications for Environmental Engineering in addition to developing professional, life-long learning, and ethical skills required by professional environmental engineers. Laboratory instructions and design components play important role in Environmental Engineering education. Therefore, it is important to ensure that the undergraduate courses are accompanied with extensive design experience and carry out laboratory works in order to provide the students with sufficient practical experience in various fields of Environmental Engineering.

An important component of the curriculum is a 1-month mandatory summer training requirement. During this summer training, the students gain valuable practical training in real competitive environment which not only provide them with an insight to the modern environmental engineering practices followed today but also give them an opportunity to interact, collaborate and work together with the highly experienced professionals, which help students in their future professional growth.

Another important component of the curriculum is a design project course. During the design project course, the students gain valuable exposure to various types of activities involved in Environmental Engineering. In such a practical activity, most of student outcomes are addressed and assessed through 'project report and presentations' for each of the students, thoroughly examined by 3-4 internal (within faculty) examiners.

3. Program Objectives

- Our graduates will perceive engineering knowledge and skills that help them to advance their career in the field of environmental engineering
- Our graduates will establish themselves as practicing engineers in the field of environmental engineering, civil engineering and other related domains
- Our graduate will be provided by creative knowledge to fulfill the need of society

4. Student Learning Outcomes

The Environmental Engineering Department adopt the ABET Engineering Accreditation Commission "i"-to-"vii" general criteria graduate Outcomes (GOs), which comply with Iraqi Engineering Graduate's Attributes in terms of knowledge, skills, abilities, attitudes, societal and environmental aspects (ethics):

I. An ability to distinguish, identify, define, formulate, and solve engineering problems by applying principles of engineering, science and mathematics.

II. An ability to produce engineering designs that meet desired needs within certain constraints by applying both analysis and synthesis in the design process.

III. An ability to create and carry out proper measurement and tests with quality assurance, analyze and interpret results, and utilize engineering judgment to make inferences.

IV. An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels.

V. An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments taking into account the consequences in worldwide financial, ecological and societal considerations.

VI. An ability to perceive the continual necessity for professional knowledge growth and how to find, assess, assemble and apply it properly.

VII. An ability to work adequately on teams and to set up objectives, plan activities, meet due dates, and manage risk and uncertainty

5. Academic Staff

Name	Title	Degree	E- Mail	Mobile Number
Ahmed Yaseen Shehab	MSC. in Environmental Engineering	Lecturer	ahmed910777@uomosul.edu.iq	7736976799
Anas Fakhri Qassid	PH.D in Environmental Engineering	Lecturer	anasfq@uomosul.edu.iq	7519838097
Ayad A. Musa	MSc. in Structural Engineering	Assist. Lecturer	ayad_engineer@uomosul.edu.iq	7512343873
Iman Ganim Ismael	PH.D in Chemical Engineering	Lecturer	imanghanim20@uomosul.edu.iq	7728898808
Aymen W. Naif	PH.D in Geotechnical Engineering	Lecturer	aymanwled1975@uomosul.edu.iq	7701641248
Hamid I. AL-Khashab	PH.D in Environmental Engineering	Lecturer	hamidalkhashab@uomosul.edu.iq	7726288550
Hanan Haqi Ismail	MSC. in Environmental Engineering	Lecturer	hanan.eng2014@uomosul.edu.iq	7736976802
Samir S. Shamas	PH.D in Structural Engineering	Lecturer	yasso@uomosul.edu.iq	7701740967
Rana B. Abdulrahman	MSc. in Structural Engineering	Lecturer	rn.burha@uomosul.edu.iq	7704184800
Salim Yousif Awad	PH.D in Structural Engineering	Lecturer	sua@uomosul.edu.iq	7736976820
Abdullah Ismael Ibrahim	PH.D in Environmental Engineering	Lecturer	abdullah.ibrahim@uomosul.edu.iq	7725033074
Abeer H.Hassan	MSC. in Environmental Engineering	Lecturer	aberhashim2014@uomosul.edu.iq	7701754900
Ammar Thamir Hamad	PH.D in Environmental Engineering	Assist. Professor	dr.ammarthamir@uomosul.edu.iq	7701825015
Omar M. Abdulkareem	PH.D in Structural Engineering	Lecturer	omaralhakeem@uomosul.edu.iq	7715551375
Kaythar A. Ibrahim	PH.D in Structural Engineering	Lecturer	kaythar6871@uomosul.edu.iq	7736976818
Layth A. ALAnaz	PH.D in Environmental Engineering	Lecturer	laythabdulaleem@uomosul.edu.iq	7736976792
Mohammed Salim Shihab	PH.D in Environmental Engineering	Lecturer	shihab77@uomosul.edu.iq	7702625869
Mohammed Salim Mahmood	MSC. in Environmental Engineering	Lecturer	Mohamedsalim@uomosul.edu.iq	7701899686
Mohammed T. Abdulnafi	PH.D in Environmental Engineering	Assist. Professor	mohmd1979@uomosul.edu.iq	7740889392
Mohammed Hisham Shukur	MSc. in Structural Engineering	Assist. Lecturer	M.h.alkafaf@uomosul.edu.iq	7736976803
Musab A. ALtamir	MSC. in Environmental Engineering	Assist. Professor	musabaltamir@uomosul.edu.iq	7703862919
Mayada Hazim Mohammed	MSC. in Environmental Engineering	Lecturer	mayada.hmah@uomosul.edu.iq	7717054752
Waad Mohammed Ali	MSC. in Environmental Engineering	Assist. Lecturer	waadd1976@uomosul.edu.iq	7736976805
Yousif Hassan Najim	MSC. in Environmental Engineering	Assist. Lecturer	engyousif123@uomosul.edu.iq	7736976804

6. Credits, Grading and GPA

Credits

Mosul University 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 = [(1st module score x ECTS) + (2nd module score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV111	Calculus 1	78	72	6.00	S	
ENV112	Statics	78	72	6.00	S	
ENV113	Engineering Drawing	93	82	7.00	S	
ENV114	Environmental Thermodynamics	48	52	4.00	S	
ENV115	Statistics	33	42	3.00	S	
UOM1011	Arabic1	33	17	2.00	B	
UOM1040	Democracy and Human Rights	33	17	2.00	B	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV121	Calculus 2	78	72	6.00	S	ENV111
ENV122	Dynamics	48	77	5.00	S	
ENV123	Principles of Environmental Engineering	63	37	4.00	C	
ENV124	Geology	33	42	3.00	S	
ENV125	Drawing by Computer	63	112	7.00	S	ENV113
UOM1031	Computer1	48	27	3.00	B	
UOM1021	English 1	33	17	2.00	B	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV211	Mathematics	78	72	6.00	S	ENV121
ENV212	Fluids Mechanics	78	47	5.00	C	
ENV213	Chemistry	63	37	4.00	S	
ENV214	Engineering Surveying	78	22	4.00	S	
ENV215	Strength of Materials	48	52	4.00	S	
ENV216	Engineering Hydrology	33	42	3.00	S	
UOM2050	The Crimes of the Baath Party in Iraq	33	17	2.00	B	
UOM2022	English 2	33	17	2.00	B	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV221	Water Quality Engineering	78	97	7.00	C	
ENV222	Concrete and Building Technology	78	72	6.00	S	
ENV223	Survey Applications and GIS	78	72	6.00	S	
ENV224	Microbiology	63	87	6.00	S	
UOM2012	Arabic2	33	17	2.00	B	
UOM2032	Computer 2	63	12	3.00	B	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV311	Principles of Air pollution	48	77	5.00	C	
ENV312	Water Supply Networks	63	62	5.00	C	ENV212
ENV313	Solid Waste Engineering	63	62	5.00	C	
ENV314	Unit Operations & Processes	78	47	5.00	C	
ENV315	Sustainability Engineering	33	67	4.00	C	
ENV316	Engineering safety and ethics	48	17	3.00	C	
ENV317	Differential Equation	33	42	3.00	S	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV321	Hydraulics Applications	63	62	5.00	C	
ENV322	Sewer Networks	63	87	6.00	C	
ENV323	Noise Pollution	33	67	4.00	C	
ENV324	Soil Mechanics	93	57	6.00	C	
ENV325	Engineering Project Planning and Design	33	17	2.00	C	
ENV326	Numerical Analysis	48	27	3.00	S	
ENV327	Reinforced Concrete	48	52	4.00	C	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV411	Wastewater Treatment Plant Design	78	72	6.00	C	ENV314
ENV412	Structural Design	93	57	6.00	C	
ENV413	Engineering Project Management and Economy	63	37	4.00	C	
ENV414	Environmental Impact Assessment and Regulations	33	42	3.00	C	
ENV415	Soil and Ground Water Pollution	33	67	4.00	C	
ENV416	Fundamentals of Hazardous Waste Management	63	37	4.00	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENV421	Design of Water Treatment Plants	63	87	6.00	C	
ENV422	Industrial and Petroleum Liquid Waste	63	87	6.00	C	
ENV423	Air Pollution Control	48	102	6.00	C	ENV311
ENV424	Civil Drawing	48	77	5.00	C	
ENV425	Estimation and Specifications	48	52	4.00	C	
ENV426	Engineering Project 2	33	42	3.00	C	

8. Contact

Program Manager:

Dr. Omer M. Abdulkareem / Ph.D. in Cnstrucin Materials / Assist. Professor
Email: env.dpt@uomosul.edu.iq
Mobile no.: +964 7725033074

Program Coordinator:

Hanan Haqi Ismael | MSc. in Environmental Engineering/ Lecturer
Email: hanan.eng2014@uomosul.edu.iq
Mobile no.: +964 7736976802