

University Of Anbar جامعة الانبار



*First Cycle – Bachelor's Degree (B.Sc.) – Dams
and Water Resources Engineering Department*

بكالوريوس هندسة - هندسة السدود والموارد المائية



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1. Mission & Vision Statement

Vision Statement

To be a national leader in education and research in the field of dams and water resources engineering recognized for world-class graduates.

Mission Statement

To provide quality education by integrating the principles of science and engineering with technical, innovative, and communication skill, and to conduct applied research that investigate pioneer solutions to the challenges of dams and water resources engineering.

2. Program Specification

Programmed code:	BSc-DWE	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

The dams and water resources engineering program at University of Anbar was established to give its students a vast and detailed education in dams and water resources engineering basics, applications, and design that enable them to practice dams and water resources engineering at the professional level.

The program's mission is to provide them with the confidence and experience needed to meet the technical and social challenges of the future. In addition to the use of modern engineering tools, the program gives education in mathematics, physics, engineering mechanics, computer programming, structure theory, management, hydraulics, hydrology, fluid, and irrigation engineering to perform its mission.

Graduates will be able to put themselves in entry-level dam and water resources engineering positions leading to professional engineering practices and gain a solid undergraduate base that enables them to continue their learning at higher levels.

3. Program Objectives

- 1- The graduate has established an Internet presence, either through professional organizations, social networking and/or other activities which demonstrate an appreciation and use of modern technological capabilities.
- 2- graduates will identify opportunities to contribute to society from a variety of positions, ranging from water management engineering, design and construction of hydraulic structures and engage professionally in private and governmental sectors such as consulting firms, contracting companies, marketing, and real-estate investments. The graduate may also pursue further education in the form of graduate and professional degrees.
- 3- The graduate will have made significant or meaningful contributions in his or her chosen field, either thorough research publications and/or presentations, the development of a new design or construction process, obtaining patents, or other evidence of contributing to the advancement of knowledge, particularly in the fields of hydraulic structures and water resources engineering.
- 4- The graduate will demonstrate adherence to the professional codes of conduct appropriate to his or her field of study and/or practice, as well as exhibit behaviour consistent with accepted standards of fiduciary responsibility, risk/benefit analysis and professional accountability.
- 5- The graduates will have outstanding communication skills as evidenced by their professional presentations, and in their productive interactions with co-workers. The graduates may also use their communication skills to foster collaborative effort among co-workers and/or may represent his or her company, institution and/or laboratory to other interested parties.
- 6- The graduate will be working independently and in multidisciplinary teams to achieve personal and organizational goals, engage in community or public service, create a product or construction that fills a social need, and/or participate in educating individuals about an issue of societal concern effectively and efficiently.

4. Student Learning Outcomes

- 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 considering 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

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6. Credits, Grading and GPA

Credits

University of Anbar 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 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE1201	Calculus 1	63	87	6.00	B	
DWE1203	Physics	78	72	6.00	B	
DWE1205	Chemistry	78	47	5.00	B	
DWE1212	Fundamentals of Electrical Engineering	78	72	6.00	B	
DWE1215	Engineering Statistics	63	37	4.00	B	
DWE1102	English Language	63	12	3.00	B	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE1202	Calculus 2	63	87	6.00	B	DWE1201
DWE1213	Engineering Mechanics	63	87	6.00	C	DWE1203
DWE1109	Computer Science	78	22	4.00	B	
DWE1210	Engineering Drawing	93	57	6.00	C	
DWE1101	Arabic Language	33	17	2.00	B	
DWE1303	Engineering Geology	78	72	6.00	C	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE2211	Calculus 3	63	87	6.00	B	DWE1202
DWE2305	Fluids Mechanics	93	57	6.00	C	
DWE2306	Engineering surveying 1	78	72	6.00	B	
DWE2309	Concrete Technology	78	72	6.00	B	
DWE2304	Dynamics	48	52	4.00	C	
DWE2103	Human Rights and Democracy	33	17	2.00	B	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE2212	Calculus 4	63	87	6.00	B	
DWE2315	Open Channels	48	102	6.00	C	DWE2305
DWE2308	Building Construction	33	117	6.00	C	
DWE2311	Engineering surveying 2	93	57	6.00	B	DWE2306
DWE2314	Strength of Materials	78	72	6.00	C	DWE1213

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE3318	Engineering Hydrology	48	102	6.00	C	
DWE3313	Water Quality	78	72	6.00	C	DWE1205
DWE3319	Soil Mechanics	93	57	6.00	C	DWE1303
DWE3322	Theory of Structures	48	102	6.00	C	DWE2314
DWE3315	Engineering Management	63	87	6.00	C	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE3338	Ground Water Hydrology	48	102	6.00	C	DWE3318
DWE3331	Water Resources Planning and Management	63	87	6.00	C	
DWE3321	Hydraulic Structures	78	72	6.00	C	
DWE3214	Engineering Numerical Methods	78	72	6.00	B	
DWE3320	Sanitary Engineering	48	102	6.00	C	DWE3313

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE4326	Irrigation and Drainage Engineering	63	87	6.00	C	
DWE 4327	Design of Dams	63	87	6.00	C	DWE3321
DWE4106	Ethics and Leader Skills	33	17	2.00	B	
DWE4323	Environmental Engineering	78	72	6.00	C	
DWE4329	Senior Design Project 1	78	22	4.00	C	
DWE4324	Reinforced Concrete Design	63	87	6.00	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
DWE4330	Methods of Construction and Estimation	63	87	6.00	C	
DWE4334	Safety and Operation of Dams	63	87	6.00	C	DWE4327
DWE4328	Foundations Engineering	48	102	6.00	C	DWE3319
DWE4335	Senior Design Project 2	93	57	6.00	C	DWE4329
DWE4332	Pipe Networks	48	102	6.00	C	

8. Contact

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