Al-Qasim Green University
جامعة القاسم الخضراء

Bachelor's Degree (B.Sc.) - Water Resources Management engineering بكالوريوس هندسة ادارة موارد مائية

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1. Mission & Vision Statement

Vision Statement

Water Resources Management engineering Department aspires to be a centre of excellence in the field of Water Resources in Iraq and competitive in the world.

Mission Statement

1. Water Resources Management engineering Department has a mission of offering relevant and quality education and training; conducting demand driven research and rendering accessible community services.
2. To prepare Water Resources Management Engineering students for successful scholarly endeavors.
3. To prepare Water Resources Management Engineering students for successful professional careers.

2. Program Specification

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

Water Resources Management Engineering is a wonderfully wide-ranging subject, and Leeds, with one of the UK's'largest and most diverse Water Resources Engineering teaching groups, is well equipped to deliver. The emphasis of the programme is offer the whole water resources to which everything is related to give the solution for the engineering problems and service the communication in the field by training and research . The degree is popular - –or some it's'the breadth of the subject that appeals, for others it's'a path to specialization. All students have the opportunity to transfer onto our specialist degrees in water engineering, mathematics, and geology at the end of the first year.

Level 1 exposes students to the fundamentals of Water Resources Engineering, suitable for progression to all programmers within the Water Resources Engineering programme group. Programme-specific core topics are covered at Level 2 preparing for research-led subject specialist modules at Levels 3 and 4. A Leeds Water Resources Engineering graduate is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Levels 2, 3 and 4 students are free to choose more than half of their module credits with the proviso a range of modules are selected that reflect the complexity of life forms from management of irrigation and drainage engineering projects and water quality control, to populations to ensure the breadth of knowledge expected of a graduate with a Water Resources Engineering degree. This allows students to develop their own wide-ranging interests in Water Resources Engineering. Decisions on what to study are made with input from personal tutors.

The research ethos is developed and fostered from the start via practicals, which are either embedded in lecture modules or taught in dedicated practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3 and 4. At Level 4 all students carry out an independent research project.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, as opportunities to practice these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

3. Program Goals

The Water Resources Management Engineering Department shall have the following goals;

1. Ensure the quality of education and training in water technology.
2. Advance research and consultancy works in water technology.
3. Improve services to the community.
4. Develop a conducive environment for learning and teaching.

4. Student Learning Outcomes

The Department of Water Resources Management Engineering at the Al-Qasim Green University/ College of Engineering is preparing graduates to have the following abilities that relate to professional accomplishments:

1. Precise specialization in the design and implementation of hydraulic structures such as dams, heads, open channels, pipelines, water tank, irrigation and pumping stations groundwater uses.
2. Characterized by distinct skills on how to optimum operation of hydraulic facilities through the use of modern electronic simulation software, which enables creation of effective solutions to operational problems of those facilities and creating optimal visualization of the operation.

3. Featuring distinctive skills in the field of sustainable management of water resources whether surface or ground and assess their challenges and develop substantive solutions.
4. Possesses the skills in the design and implementation of networks and stations for drinking water and wastewater, as well as his interest in environmental engineering and how to maintain the water resources from pollution.
5. An ability to apply knowledge of mathematics, science, and engineering.
6. An ability to design and conduct laboratory experiments, as well as to analyze and interpret data.
7. An ability to function on multi-disciplinary teams.
8. An ability to identify, formulates, and solves engineering problems.
9. An understanding of professional and ethical responsibility.
10. An ability to communicate effectively.
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

Al Qasim Green University follows Bologna Learning 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 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)

1. 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
QWRE2601	Mathematics I	63	87.00	6.00	B	
QWRE2602	Engineering Mechanics I	63	87.00	6.00	B	
QWRE2403	Engineering Drawing	48	52.00	4.00	B	
QWRE3404	Introduction of Water Resources Engineering	63	37.00	4.00	C	
QWRE1305	Computer Principles and Programming	63	12.00	3.00	B	

QWRE2506	Engineering Physics	63	62.00	5.00	B	
QWRE1207	Arabic Language	33	17.00	2.00	B	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
QWRE2608	Mathematics II	63	87	6.00	B	QWRE2601
QWRE2609	Engineering Mechanics II	63	87	6.00	B	QWRE2602
QWRE2410	Auto cad	33	67	4.00	B	
QWRE3411	Soil physics	78	22	4.00	C	
QWRE2412	Engineering Statistics	63	37	4.00	B	
QWRE2213	Geology	33	17	2.00	B	
QWRE1214	English Language	33	17	2.00	S	
QWRE1215	Human Rights and Democracy	33	17	2.00	B	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
QWRE2616	Mathematics III	93	57	6.00	B	QWRE2608
QWRE2617	Fluid Mechanics I	78	72	6.00	C	
QWRE2618	Engineering SurveyingI	78	72	6.00	B	
QWRE3619	Design of Irrigation and drainage systems	63	87	6.00	C	
QWRE2420	Computer applications	48	52	4.00	S	
QWRE1221	Baath Crimes in Iraq	33	17	2.00	S	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
QWRE2822	Strength of Materials	78	122	8.00	B	QWRE2609
QWRE2623	Fluid Mechanics II	78	72	6.00	C	QWRE2617
QWRE2624	Engineering Surveying II	78	72	6.00	B	QWRE2618
QWRE2425	Concrete Technology	63	37	4.00	B	
QWRE2426	Construction and Building Materials	63	37	4.00	B	
QWRE1227	English Technical writing	33	17	2.00	S	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
QWRE3728	Open Channel Hydraulics I	93	82	7.00	C	QWRE2623
QWRE3629	Theory of Structures	93	57	6.00	S	QWRE2822
QWRE3430	Reinforced Concrete Design I	48	52	4.00	S	
QWRE3631	Soil Mechanics	78	72	6.00	C	
QWRE3432	Engineering Hydrology	48	52	4.00	C	
QWRE3333	Engineering Analysis	33	42	3.00	B	
QWRE1234	Arabic Langauage	33	17.00	50	B	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
QWRE3734	Open Channel Hydraulics II	93	82	7.00	C	QWRE3728
QWRE3535	Reinforced Concrete Design II	63	62	5.00	S	QWRE3629

QWRE3536	Foundations	63	62	5.00	S	
QWRE3537	Water Quality Control	63	62	5.00	C	
QWRE3438	Engineering Economic and Management	48	52	4.00	S	
QWRE3439	Numerical Analysis	48	52	4.00	B	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
QWRE3540	Hydraulics Structures I	63	62	5.00	C	QWRE3733
QWRE3541	Structural design of Hydraulic Structures I	63	62	5.00	C	QWRE3534
QWRE3542	Dams Engineering	48	77	5.00	C	
QWRE3543	GIS & Remote Sensing	78	47	5.00	S	
QWRE3544	Estimation and specifications	63	37	4.00	S	
QWRE1245	Engineering Profession Ethics	33	17	2.00	B	
QWRE2446	Engineering Project I	78	22	4.00	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
QWRE3647	Hydraulics Structures II	63	87	6.00	C	QWRE3539
QWRE3648	Structural design of Hydraulic Structures II	63	87	6.00	C	QWRE3540
QWRE3649	Sanitary Engineering	78	72	6.00	S	
QWRE3450	Ground Water Hydraulics	48	52	4.00	C	
QWRE3451	Water Resources Management	48	52	4.00	C	
QWRE2452	Engineering Project II	48	52	4.00	C	QWRE2345

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