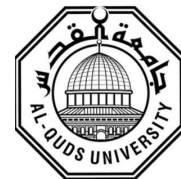




Program Goals

The main goal of the eMWRE program is to deliver highly qualified engineers and scientists with solid technical knowledge, managerial skills, and sufficient research skills and capabilities to tackle various problems and challenges in the Water Resources Engineering field and to contribute effectively in decision-making. That will be achieved by combining theory and practice knowledge using e-learning instruments besides social justice. The program supports laboratory and fieldwork in which educators engage with program candidates and other water professionals within diverse communities. The program is dedicated to developing the Palestinian community as well as contributing to global knowledge and research development.

Partners



eMWRE

Program Mission

The mission of the program is to contribute on capacity building of advanced professionals and researchers who can undertake leadership on the national and international level in technical and managerial water resource development questions, and who are prepared with a workable ability to solve the managerial and technological problems involved in the conservation and sustainable use of water environments.

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Intended Learning Outcomes (ILOs) of the program

Category 1: Knowledge and understanding

- Students acquire deep knowledge and understanding of theoretical and analytical methods for research and development in the water resources engineering field and understand how to resolve pertinent multidisciplinary issues.
- Students demonstrate knowledge of different water management and planning approaches.
- Students are knowledgeable of advanced and modern methods and tools in water resources engineering.

Category 2: Cognitive skills

- Students can critically analyze, conceptualize, and synthesize knowledge.
- Students gain self-confidence.

Category 3: Professional and Practical Skills

- Students develop solid and innovative research skills.
- Students demonstrate effective writing and oral communication skills.

This master's program has been developed and operated under the frame EU ERASMUS + program under the key action 2: cooperation for innovation and the exchange of good practices, capacity building in the field of higher education. The program is the net result of collaborative work between EU-HEI (Vrije Universiteit Brussel (VUB), Belgium and IHE Delft Institute for Water Education, Netherlands), Jordanian and Palestinian Universities, who developed the course material based on local market needs and stakeholders' priorities. The project makes it possible for Palestinian higher education institutes, mainly AQU and IUG, to work together with Jordanian and EU-HEI, to develop, share and transfer their best practices and innovative developed approaches in the fields of water education and e-learning teaching technology. The program will be blended based, and the lectures will be given by both local and EU partners through an innovative Virtual platform that has been enhanced through ERASMUS co-fund. In addition, this master's program has the full support of the National Erasmus Office in Palestine.

Executive plan of the program

The study plan consists of **36 credits** hours distributed as follows:

- Mandatory courses: 21 credit hours
- Elective courses: 9 credit hours
- Thesis: 6 credit hours

First Semester

Course ID	Title	Type	Credit Hours	ECTS
ENG 7201	Research Methodology	Core	2	3.33
ENG 7202	Stochastic Hydrology	Core	2	3.33
ENG 7304	Integrated Water Resource Management	Core	2	3.33
ENG 7309	Environmental Programming	Elective	3	5.00
ENG 7001	ICDL Training Course	-	3	5.00
ENG 7002	Introduction to QGIS Software	-	3	5.00
Total credit hours/semester			10	25.66

Second Semester

Course ID	Title	Type	Credit Hours	ECTS
ENG 7203	Groundwater Hydrology and Modelling	Core	3	5.00
ENG 7307	Remote Sensing and GIS Application in Water Resources Engineering	Core	3	10.00
ENG 7306	Advanced Water Treatment Technology	Core	3	5.00
ENG 7003	Seminar	-	0	5.00
Total credit hours/semester			9	25.00

Third Semester

Course ID	Title	Type	Credit Hours	ECTS
ENG 7205	Water Governance	Core	2	3.33
ENG 7308	Integral Project (Desalination, Artificial Recharge, Wastewater Reuse, SMART Agriculture, etc.)	Core	3	10.00
ENG 73XX	Elective course (2)	Elective	3	5.00
ENG 7600	Thesis 1	Core	3	20.00
Total credit hours/semester			11	28.33

Fourth Semester

Course ID	Title	Type	Credit Hours	ECTS
ENG 73XX	Elective course (3)	Elective	3	5.00
ENG 7004	Internship	-	0	15.00
ENG 7600	Thesis 2	Core	3	20.00
Total credit hours/semester			6	40.00
Total credit hours for courses			36	130.00

Elective Courses

IUG Course ID	Title	Credit Hours	Theoretical C.H.	Practical C.H.
ENG 7309	Environmental Programming	3	3	0
ENG 7310	Surface Hydrology & Modeling	3	2	1
ENG 7311	Advanced Hydraulics	3	3	0
ENG 7312	Environmental and Social Impact Assessment	3	1	2
ENG 7313	Advanced Numerical Methods	3	3	0
ENG 7314	Hydrology and Hydrogeology	3	3	0
ENG 7315	Disaster and Risk Management	3	3	0
ENG 7316	Water Quality	3	2	1
ENG 7317	Climate Change and Water Sustainability	3	3	0
ENG 7318	Water-energy-food Nexus	3	3	0
ENG 7319	Entrepreneurship and Innovation in Water	3	2	1
ENG 7320	Coastal Engineering and Management	3	2	1
ENG 7321	Water Harvesting	3	3	0
ENG 7322	Drainage and Dam Engineering in the Arid and Semi-arid Regions	3	3	0
ENG 7323	Water Accounting	3	3	0