A’Sharqiyah University

**Bachelor of Science in Water Engineering**

**CALL FOR APPLICATIONS**

February 2022

**Bachelor of Science in Water Engineering**

**APPLICATIONS**

Applications are invited from prospective students who would like to undertake the above program on a full time or part-time basis starting in February 2022. Students who require extra information should contact:

Professor Sam Wamuziri

Dean for the College of Engineering

A’Sharqiyah University

P.O. Box 42,

Postal Code 400

Ibra.

Sultanate of Oman

Direct line: +968 2540 1200

Mobile: +968 9179 7014

Email: [s.wamuziri@asu.edu.om](mailto:s.wamuziri@asu.edu.om)

**ADMISSION REQUIREMENTS**

To gain admission to the program, a student:

• should have successfully completed the courses of all subjects of the general education diploma or equivalent, Pure Mathematics and either Physics or Chemistry;

• should achieve the standards set for the subjects of the General Foundation Program;

• should have studied subjects which qualify him/her to be enrolled in programs in the College of Engineering;

• Must be medically fit.

The duration of the program is four years for full time students. Students who hold a Diploma in Civil, Environmental or other related discipline will be considered for advanced entry to the program. The duration of the program in this case will be shorter depending on the number of credits from which they exempted.

**PROGRAM OVERVIEW**

This program was developed by the College of Engineering at A’Sharqiyah University with the objective of developing the next generation of water engineers in the MENA (Middle East and North Africa) region and to provide them with broad, technical-orientated knowledge in water-related engineering and the natural sciences. The program evaluates the complex challenges facing the water sector in dry climatic regions, develops appropriate academic and scientific problem-solving strategies, and teaches students how to work in international project teams on multidisciplinary projects in order to manage scarce water resources in an integrated and a sustainable manner.

**PROGRAM LEARNING OUTCOMES**

On completion of the program, graduates will be able to:

* Apply technical knowledge and skills in water engineering and the natural sciences.
* Evaluate the complex challenges facing the water sector in dry climatic regions.
* Analyze and solve problems in water resources management, water and wastewater treatment plant design, water chemistry analysis, and other related fields.
* Synthesize problems and apply appropriate solutions in water engineering.
* Develop appropriate academic and scientific problem-solving strategies.
* Work in international project teams and on multidisciplinary projects in order to manage water resources in an integrated and a sustainable manner.

**CAREER OPPORTUNITIES**

The engineering sector will continue to be an essential contributor to the future sustainable development of the MENA region. Furthermore, there will always be great demand for qualified and experienced engineers to implement the nations’ economic diversification strategy and to enhance the social and economic development of the region. Graduates from the BSc Water Engineering program will find employment involving the engineering and design of hydraulic structures, water and wastewater treatment systems, desalination plants, water and chemical laboratories, municipalities, dams and power generation, oil and gas companies and many other major facilities. Graduates from the program may pursue further studies leading to award of a Master’s degree or Doctor of Philosophy.

**PROGRAMME CONTENT**

The taught elements of the program comprise an integrated package of University requirements, College requirements, Major requirements and Technical elective courses. All degree students must also complete an eight-week internship training course in addition to the taught courses of the program.

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| **Level I**  English Communication Skills I  English Communication Skills II  Computer Applications  Engineering Laboratories  Calculus 1  Calculus II  Physics I  Physics II  Islamic Civilization  Water Chemistry | **Level II**  Surveying  Engineering Geology  Engineering Drawing  Civil Engineering Materials  Water treatment  Fluid Mechanics  Water Microbiology  Introduction to Water Treatment | **Level III**  Engineering Hydrology  Water Supply Technology  Computer Applications in Water Resources  Hydraulics Engineering  Solid Waste Management  Probability and Statistics  Irrigation and Drainage Technology  Wastewater Treatment  Pump Station Design |
| **LEVEL IV**  Renewable Energy  Capstone Design Project I  Water Laws and Legislations  Desalination Engineering  Hydraulic Structures  Water Resources Engineering  Hydrogeology and Groundwater Contamination  Water Engineering Elective I  Water Engineering Elective II  Water Engineering Elective III  Summer Internship | **Water Engineering Electives**  Advanced Wastewater Treatment  Coastal Engineering  Groundwater Remediation  Advanced Technology in Desalination  Arid Zone Hydrology | **Water Engineering Electives**  Nano-technology in Water Applications  Water-Borne Diseases  Special Topics in Water Engineering  Water Pollution Control  Design & Management of Irrigation Systems |