6.3.2 - Process to prevent polluted water entering the water system, including pollution caused by accidents and incidents at the university

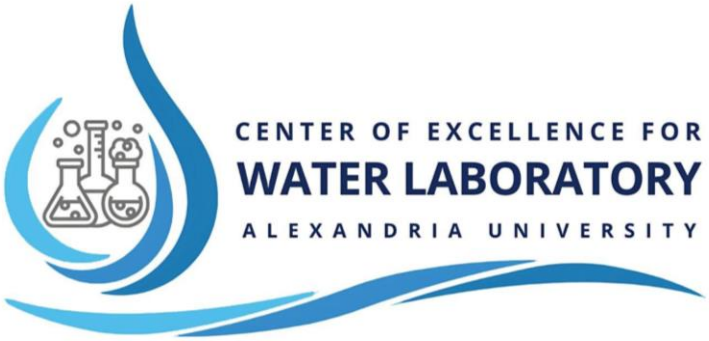
- Pollution caused by accidents and incidents at Alexandria University can have a significant impact on water resources, water quality, soil, plants, animals, and the surrounding environment. To reduce water pollution and protect the ecosystem, the University has developed an integrated Water Management System that emphasizes water conservation, wastewater treatment, waste management, environmental monitoring, and pollution control. More than 50% of Waste Water is treated through appropriate Wastewater Treatment processes and reused for non-potable applications, including Irrigation, agricultural research, landscape maintenance, rooftop gardens, and aquaculture facilities. These applications help reduce freshwater consumption, improve Water Supply efficiency, and support sustainable development.
- To safeguard water resources, Alexandria University has established comprehensive water pollution control policies that include wastewater treatment, controlled discharge systems, accredited laboratory monitoring, and continuous water quality assessment. The University's Central Laboratory and specialized research facilities perform chemical and physical analyses of water quality in accordance with internationally recognized standards, ensuring effective environmental monitoring and protecting surrounding ecosystems. Community initiatives, including coastal cleanup campaigns, marine conservation activities, and environmental awareness programs, further strengthen the University's contribution to protecting aquatic environments.
- Alexandria University continues to strengthen its role as a leading research institution by advancing high-impact sustainability research that addresses global environmental, social, and economic challenges. During the 2025 academic year, the University published 6,690 scholarly publications related to sustainability. These publications span a wide range of disciplines, including climate change, renewable energy, environmental protection, water resources, waste management, pollution control, biodiversity conservation, ecosystem restoration, sustainable agriculture, and green technologies, reflecting the University's multidisciplinary approach to sustainable development.
- The University's Waste Water Treatment System incorporates different technologies and methods for pollutant removal, water recovery, and the control of contaminants before discharge. Innovative projects include greywater recycling, air-conditioning condensate recovery, wastewater treatment units, a 100 m^3 Desalination plant, and renewable energy-powered desalination technologies. Depending on the characteristics of the wastewater, treatment processes may involve filtration, membrane separation, biological treatment, adsorption, and disinfection to reduce the concentration of organic pollutants, nutrients, bacteria, heavy metals, and other chemical water pollutants. These methods aim to improve treatment performance, reduce the environmental impact of wastewater discharge, and protect

Groundwater, Surface Water, and other Water Resources from contamination.

- To prevent and control pollution resulting from accidental spills, sewage leaks, uncontrolled discharge, and other environmental incidents, Alexandria University implements water pollution control policies supported by laboratory Analysis, systematic sampling, and continuous Water Quality Monitoring. The University's Central Laboratory and specialized research facilities conduct chemical and physical analyses to determine important Water Quality parameters, including pH (Hydrogen-Ion Concentration), temperature, turbidity, nutrient concentration, and other indicators of contamination. Where appropriate, parameters such as Biochemical Oxygen Demand, nitrogen, phosphorus, metals, and bacteria can be evaluated to assess the effectiveness of treatment processes and identify potential environmental risks. The results of these measurements support Risk Assessment, pollution prevention, and the development of efficient solutions for protecting the environment and maintaining compliance with recognized standards.
- Furthermore, the University promotes Research, technological Development, and integrated Water Management approaches to improve the removal of pollutants and optimize wastewater treatment performance. The recovery and reuse of treated effluent for agricultural activities and Irrigation contribute to Water Conservation, reduce waste generation, and support sustainable agricultural production. Community initiatives, including coastal cleanup campaigns, marine conservation projects, and environmental awareness programs, strengthen the University's role in Environmental Protection. Through continuous monitoring, appropriate treatment methods, preventive measures, and sustainable technologies, Alexandria University seeks to reduce the risk of Water Pollution, minimize the impact of environmental accidents and incidents, protect aquatic ecosystems, and ensure the sustainable use of Water Resources for future generations.
- *Water Pollution Control* is rigorously maintained through strict adherence to Egyptian environmental legislation and international standards such as the *APHA Standard Methods*. The University's accredited *Central Laboratory at the Faculty of Science and the Faculty of Engineering and the Institute of Graduate Studies and Research* conduct regular monitoring of physical, chemical, and biological parameters in stormwater, sewage, and coastal discharges. In parallel, Alexandria University actively contributes to marine conservation through shoreline clean-up initiatives, environmental impact assessments for coastal infrastructure, and research programs addressing marine biodiversity and pollution mitigation. The University's pivotal role in advancing research and innovation for the protection of Mediterranean coastal ecosystems is exemplified through collaborative projects such as the EU-funded *"Circular Economy: From the Beach to the Lab"* initiative and the *Erasmus+* programs on the blue economy and sustainable aquaculture.
- **Water pollution control in campus area**
  - The campus water pollution control to prevent polluted water from entering the water system is performed. Alexandria University has accredited laboratories for the regular check

water quality (Physical, Chemical parameters) on your campus. In addition, the biological parameters are analyzed by the Microbiology Professor and staff members regularly.

- Alexandria University's Centre of Excellence for Water Laboratory Obtains ISO/IEC 17025:2017 International Accreditation
- Accreditation Certificate of Central Laboratory – Faculty of Science (Alexandria University).
- Accreditation of Institute of Graduate Studies and Research (Alexandria University)

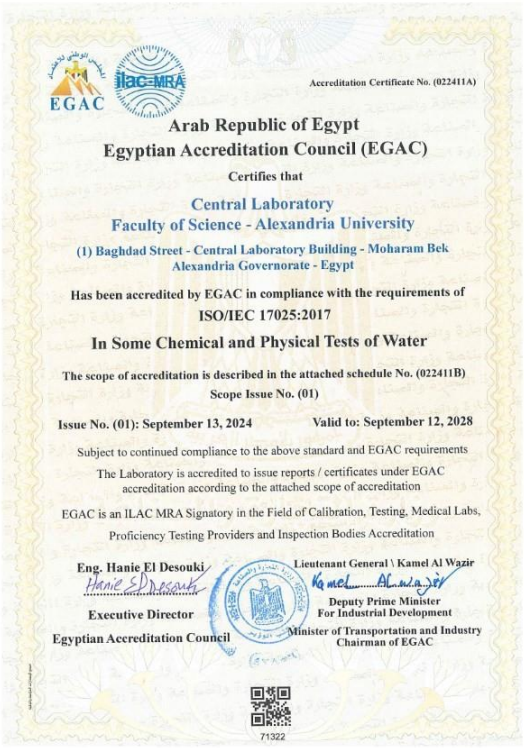


Alexandria University's Centre of Excellence for Water Laboratory Obtains ISO/IEC 17025:2017 International Accreditation

This accreditation represents a significant achievement, as it confirms the laboratory's ability to conduct chemical and physical water testing in accordance with international standards. This enhances the reliability of results, supports research projects, and contributes to addressing the challenges of water scarcity, pollution, climate change, and sustainable development at both the local and international levels.

Guideline standard

Standard Methods for the Examination of Water and wastewater 22 edition (APHA).



Accreditation Certificate No. (022411A)

Arab Republic of Egypt
Egyptian Accreditation Council (EGAC)

Certifies that

Central Laboratory
Faculty of Science - Alexandria University

(1) Baghdad Street - Central Laboratory Building - Moharam Bek
Alexandria Governorate - Egypt

Has been accredited by EGAC in compliance with the requirements of
ISO/IEC 17025:2017

In Some Chemical and Physical Tests of Water

The scope of accreditation is described in the attached schedule No. (022411B)
Scope Issue No. (01)

Issue No. (01): September 13, 2024 Valid to: September 12, 2028

Subject to continued compliance to the above standard and EGAC requirements

The Laboratory is accredited to issue reports / certificates under EGAC accreditation according to the attached scope of accreditation

EGAC is an ILAC MRA Signatory in the Field of Calibration, Testing, Medical Labs, Proficiency Testing Providers and Inspection Bodies Accreditation

Eng. Hanie El Desouki
Executive Director
Egyptian Accreditation Council

Lieutenant General \ Kamel Al Wazir
Deputy Prime Minister
For Industrial Development
Minister of Transportation and Industry
Chairman of EGAC

71322

Water quality analysis and monitoring at Alexandria University
Accreditation Certificate of Central Laboratory – Faculty of Science (Alexandria University)

Ministry of
Trade and Industry
Egyptian Accreditation Council
EGAC

وزارة التجارة والصناعة
المجلس الوطنـــي للإعتمـاد
إيجـاك

EGAC

Schedule of Accreditation

for Testing Laboratory According to ISO/IEC 17025

Issued to

ICP-OES Labaratory

Institute of Graduate Studies and Research Alexandria Univeristy

(163) Horryia Avenue Shatby
Alexandria Governerate – Egypt

Schedule No.:0222210B 1st Accreditation date: July 29, 2022 Issue No. (1): July 29, 2022 Revision No. (-): Valid to: July 28, 2026

Materials / Products Tested	Types of Tests / PropertiesMeasured / Range of Measurements		Standard Specifications / Techniques Used	
Water	Element	LOQ (ppb)	EPA method 200.7:2001 EPA method 6010 C:2007	Inductivity Coupled Plasma Optical Emission Spectrometer (ICP-OES) Model 5100 ICP-OES VDV S.N AU16020119
	Al	26.6		
	As	73.4		
	Ag	4.00		
	Ba	4.32		
	Co	7.13		
	Cr	4.40		
	Cu	6.94		
	Fe	24.0		
	Mo	19.0		
	Ni	22.5		
	Pb	28.2		
	Zn	104		
	Sb	42.9		
	Se	101		
	Sr	7.93		
	K	25.9		
	Na	66.6		
	Cd	4.00		
	Mn	2.97		
	Mg	18.9		

Kornish El-Maadi, Riad El-Maadi Tower 1 - Cairo - Egypt
Tel.: (202) 25275220/5/6/7
Fax: (202) 25275224

كورنيش المعادى – برج رياض المعادى١ – القاهرة – مصر
تليفون : ٢٥٢٧٥٢٢٠/٥/٦/٧ (٢٠٢)
فاكس : ٢٥٢٧٥٢٢٤ (٢٠٢)

Industrial Investment Map: http://invegypt.com: الصفحة الرسمية لخريطة الاستثمار الصناعي في مصر

Accreditation of Institute of Graduate Studies and Research (Alexandria University)

Ministry of
Trade and Industry
Egyptian Accreditation Council
EGAC

EGAC

وزارة التجارة والصناعة
المجلس الوطنـــي للإعتمـاد
إيجـاك

Schedule of Accreditation

for Testing Laboratory According to ISO/IEC 17025

Issued to

ICP-OES Labaratory

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Alexandria Governerate – Egypt

Schedule No.:0222210B **1st Accreditation date: July 29, 2022** **Issue No. (1): July 29, 2022** **Revision No. (-):** **Valid to: July 28, 2026**

Materials / Products Tested	Types of Tests / PropertiesMeasured / Range of Measurements		Standard Specifications / Techniques Used	
Soil	Element	LOQ (ppb)	EPA method 200.7:2001	**Inductivity Coupled Plasma**
	Ag	43.2	EPA Method 3051 A:2007	**Optical Emission Spectrometer (ICP-**
	As	52.8	EPA Method 6010 C:2007	**OES)**
	Ba	11.1		Model 5100 ICP-OES VDV
	Cd	12.3		S.N AU16020119
	Co	8.78		
	Cr	42.8		
	Cu	12.7		
	Mg	48.5		
	Mn	12.6		
	Mo	18.5		
	Ni	46.5		
	Pb	29.1		
	Zn	30.5		
	Se	21.8		
	Sr	2.31		
	Sb	46.5		
	Ti	15.6		
	Na	228		
	Fe	202		

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كورنيش المعادى – برج رياض المعادى١ – القاهرة – مصر
تليفون : ٢٥٢٧٥٢٢٠/٥/٦/٧ (٢٠٢)
فاكس : ٢٥٢٧٥٢٢٤ (٢٠٢)

Accreditation of Institute of Graduate Studies and Research (Alexandria University)