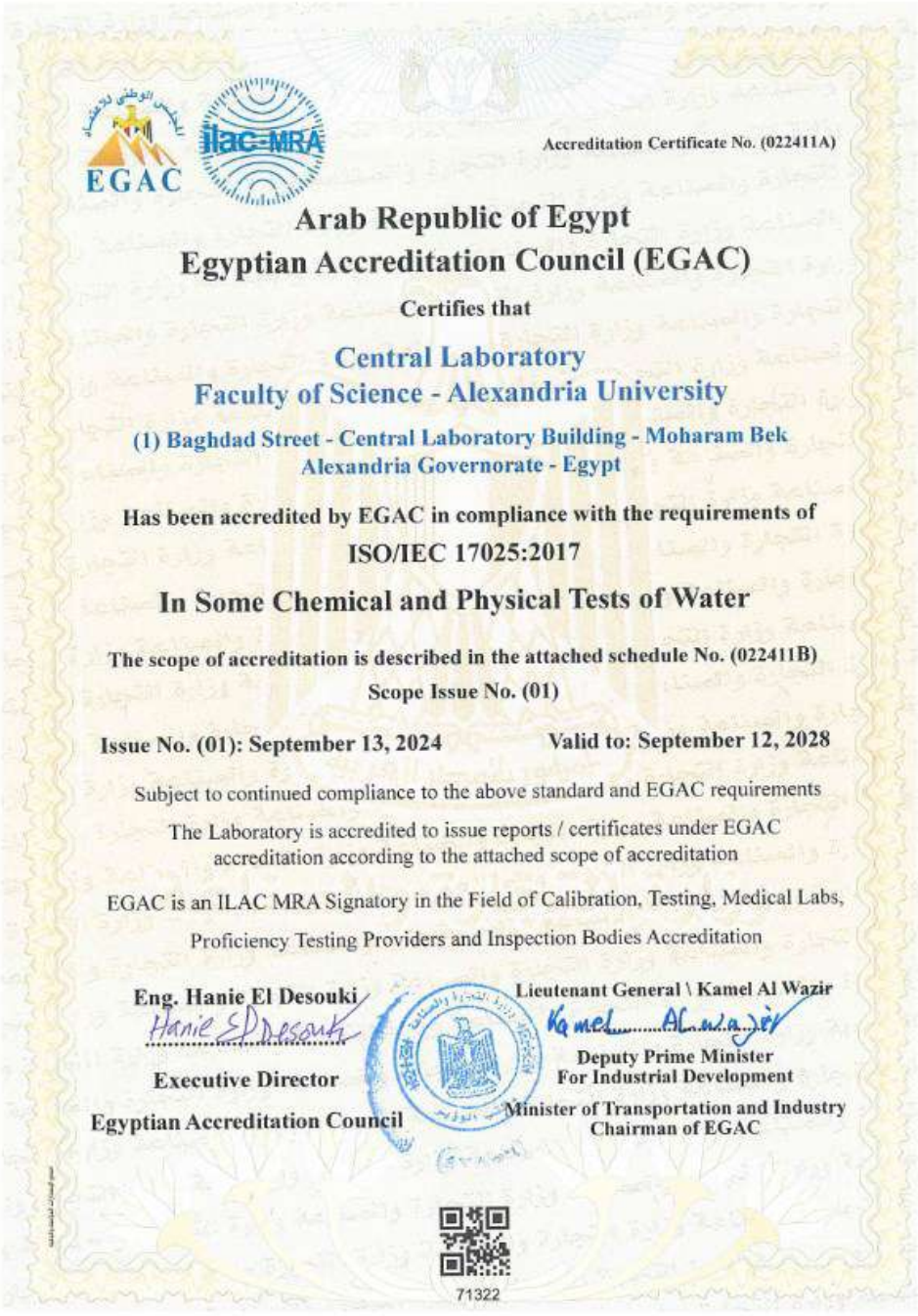
Template for Evidence(s)
UI GreenMetric Questionnaire

University : Alexandria University
Country : Egypt
Web Address : https://alexu.edu.eg/

[4] Water (WR)

[4.5] Water pollution control in campus area



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

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

Ministry of
Trade and Industry
Egyptian Accreditation Council
EGAC

وزارة الصناعة
المجلس الوطني للإعتماد
إيجاك

Schedule of Accreditation
for Testing Laboratory According to ISO/IEC 17025
Issued To
Central laboratory
Faculty of science Alexandria university
1 Baghdad street, central laboratory building Moharam Bey
Alexandria Governorate -Egypt

Schedule No.: 022411B **1st Accreditation date: September 13, 2024** **Issue No.(1): September 13, 2024** **Revision No. (-):** **Valid to: September 12, 2028**

Materials / Products Tested	Types of Tests / PropertiesMeasured / Range of Measurements (%)	Standard Specifications / Techniques Used	
Drinking Water and Ground water	Dtermination of pH	SMWW, 4500-H+:2022	pH Meter, HACH/HQ11d, Germany, S.N. 170100010026, code: CLS – 03
	Dtermination of Turbidity	SMWW, 2130,:2022	Turbidity Meter, Prime Lab, Germany, S.N. 110679, code: CLS - 05
	Dtermination of Conductivity	SMWW, 2510,:2022	Conductivity Meter, HACH/HQ14D, Germany, S.N. 170100009834, code: CLS - 04
	Dtermination of Phosphorus (LOQ= 0.03mg/L)	SMWW, 4500-P D:2022	Spectrophotometer, Hach, Germany, DR 3900,S.N. 1654957, code: CLS-02 Balance-RADWAG, AS 220.R2, Poland, S.N. 509939, code: CLS - 07

Scope of Accreditation of Central Laboratory – Faculty of Science (Alexandria University)

Ministry of
Trade and Industry
Egyptian Accreditation Council
EGAC

وزارة الصناعة
المجلس الوطني للإعتماد
إيجاك

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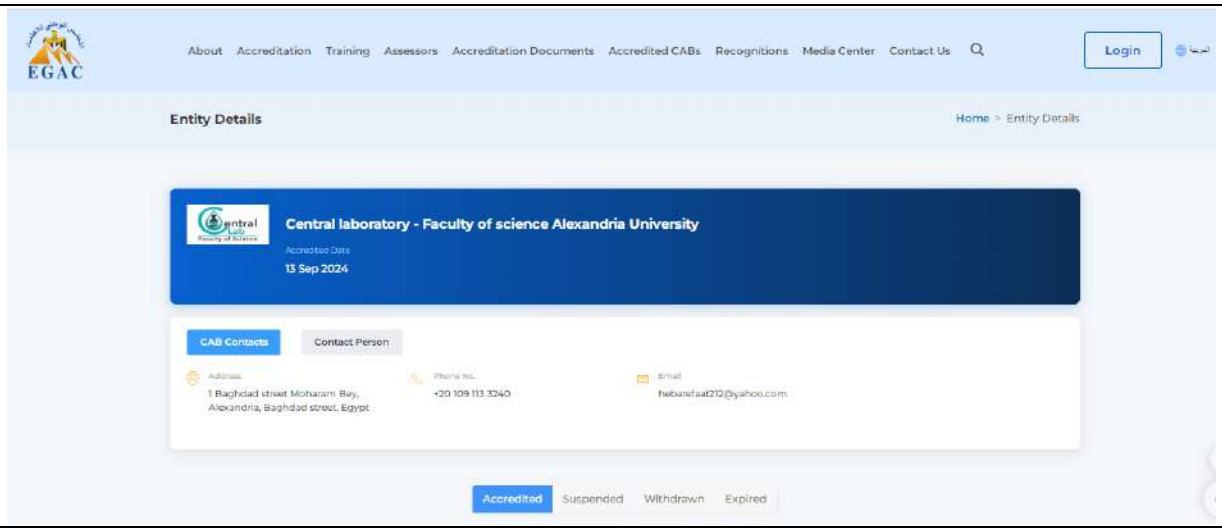
Materials / Products Tested	Types of Tests / PropertiesMeasured / Range of Measurements (%)		Standard Specifications / Techniques Used	
Drinking Water and Ground water	Element	LOQ (mg/L)	SMWW 3111:2022	Atomic Absorption, Agilent contra AA 300, Germany, S.N. 1600494, code: CLS – 01 Balance-RADWAG, AS 220.R2, Poland, S.N. 509939, code: CLS - 07
	Cu	0.1		
	Zn	0.1		
	Cr	0.05		
	Mn	0.05		
	Fe	0.1		
Water	Ni	0.1		

Scope of Accreditation of Central Laboratory – Faculty of Science (Alexandria University)



Scope of Accreditation of Central Laboratory – Faculty of Science (Alexandria University)

Scope of Accreditation of Central Laboratory – Faculty of Science (Alexandria University)

Ministry of
Trade and Industry
Egyptian Accreditation Council
EGAC

EGAC

وزارة التجارة والصناعة
المجلس الوطنـــي للإعتمـاد
إيجاك

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)

Scope of 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
إيجاك

Schedule of Accreditation

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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 Optical Emission Spectrometer (ICP-OES) Model 5100 ICP-OES VDV S.N AU16020119
	Ag	43.2	EPA Method 3051 A:2007	
	As	52.8	EPA Method 6010 C:2007	
	Ba	11.1		
	Cd	12.3		
	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		

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

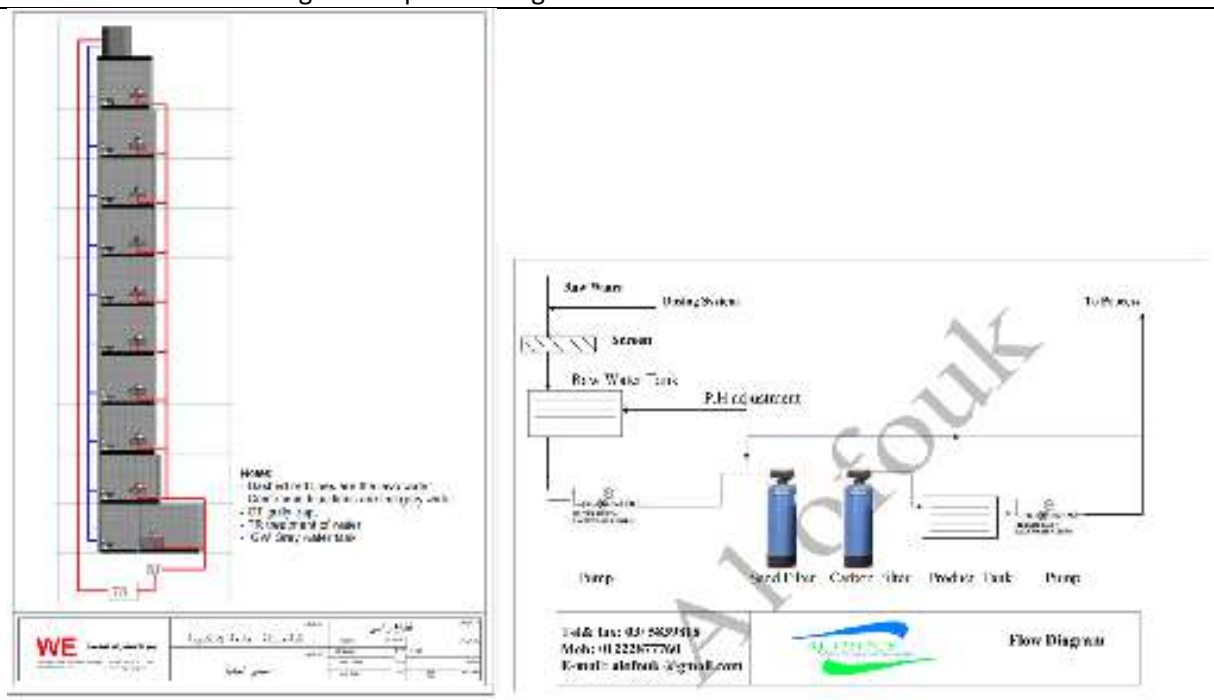
كورنيش المعادى – برج رياض المعادى١ – القاهرة – مصر
تليفون : ٢٥٢٧٥٢٢٠/٥/٦/٧ (٢٠٢)
فاكس : ٢٥٢٧٥٢٢٤ (٢٠٢)

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

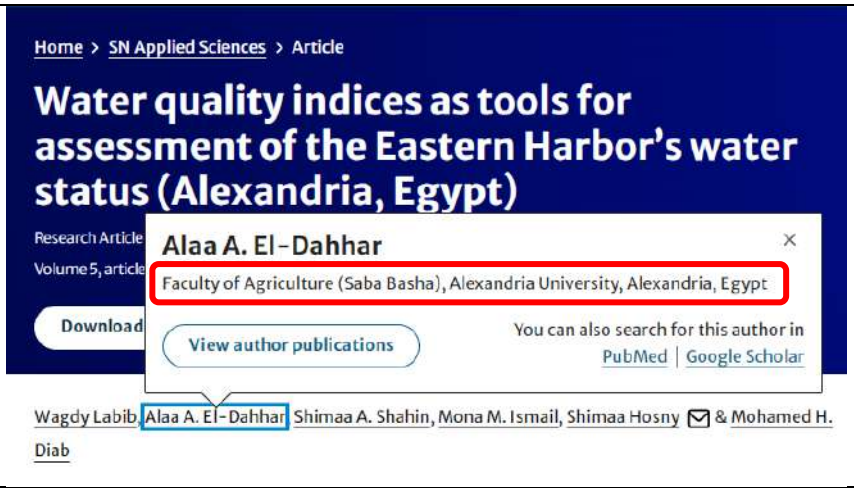
Scope of Accreditation of Institute of Graduate Studies and Research (Alexandria University)

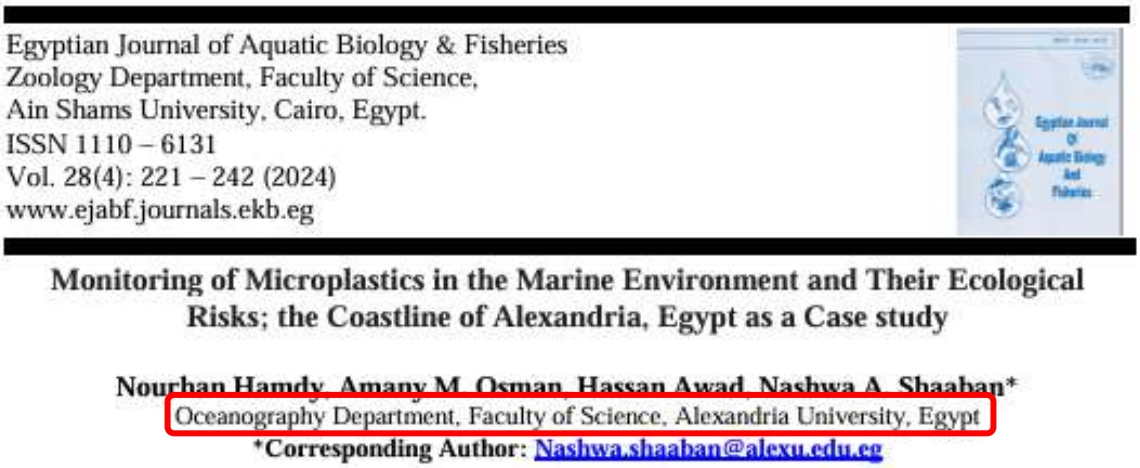
The sewage water will be treated and reused in the irrigation of green areas in the project (Alexandria University)

Recycling wastewater for use in fish farms, Faculty of Agriculture, Alexandria University. Which consists of eight ponds (one and a quarter acres/each) in the Abis area. Alexandria University also used recycled water to grow crops at the Agricultural Research Center in Abis.



Grey water recycling system by Faculty of Pharmacy (Alexandria University)




Egyptian Journal of Aquatic Biology & Fisheries
Zoology Department, Faculty of Science,
Ain Shams University, Cairo, Egypt.
ISSN 1110 – 6131
Vol. 28(4): 221 – 242 (2024)
www.ejabf.journals.ekb.eg

Monitoring of Microplastics in the Marine Environment and Their Ecological Risks; the Coastline of Alexandria, Egypt as a Case study

Nourhan Hamdy, Amany M. Osman, Hassan Awad, Nashwa A. Shaaban*
Oceanography Department, Faculty of Science, Alexandria University, Egypt
***Corresponding Author:** Nashwa.shaaban@alexu.edu.eg

Researchers at Alexandria University are conducting studies to conserve the marine environment near the University Campus

Students from the Faculty of Sport Education at Abu Qir took part in a week-long initiative to clean the eastern harbour of Alexandria, starting on July 8, 2024. The initiative aims to promote sustainable tourism, improve waste disposal practices, and raise awareness about the dangers of plastic waste to marine life, while encouraging recycling efforts and maintaining clean beaches. The project included the Alexandria university, El-Raml Rotary Club, and the Egyptian Diving and Rescue Federation.

Students from various schools in Alexandria, alongside those from the French Institute, participated in a large-scale cleanup campaign at Anfouchi beach titled "Our Sea is Clean Without Trash ♻🦈." Following the cleanup, participants explored the process of transforming plastic waste into usable materials through 3D printing at the Fab Lab at Alexandria University. This initiative is part of the "Circular Economy: From the Beach to the Lab" project, led by the French Consulate and the French Institute, with financial backing from the European Union and collaboration with the Alexandria Governorate. The project aims to foster partnerships for sustainability and actively engage the local community in environmental efforts.

Description:

The campus water pollution control to prevent polluted water from entering the water system is performed. Alexandria University has two accredited laboratories for the regular check water quality (Physical, Chemical parameters) on your campus. I addition, the biological parameters are analyzed by the Microbiology Professor and staff members regularly.

Water quality analysis and monitoring at Alexandria University.

- Accreditation Certificate of Central Laboratory – Faculty of Science (Alexandria University).
- Scope of accreditation of Central Laboratory – Faculty of Science (Alexandria University).

Link: https://egac.gov.eg/en/entity-details/?tc=zDpjq4iYvXxjCBxe9Mex3BDnqYZUXIuCsMUxJeFd

- Scope of Accreditation of Institute of Graduate Studies and Research (Alexandria University)
- Researchers at Alexandria University are working on studies aimed at protecting and preserving the marine environment located close to the university's campus. Their research likely involves efforts to prevent pollution, protect marine biodiversity, and maintain the health of the coastal

ecosystem. The focus is on ensuring that the nearby marine environment remains sustainable and unharmed by human activities or other environmental threats.

- On July 8, 2024, the students from the Faculty of Sport Education, Abu Qir, participate in Initiative to Clean the Eastern Harbour of Alexandria. In line with Alexandria University's commitment to community service and under the auspices of Professor Dr. Abdelaziz Konsowa, President of Alexandria University, and Dr. Yasmine Fouad, Minister of Environment, students from the Faculty of Sport Education in Abu Qir participated in a week-long initiative to clean the eastern harbour of Alexandria. The initiative includes the participation of the El-Raml Rotary Club and the Egyptian Diving and Rescue Federation. The initiative aims to promote sustainable tourism and improve beach enjoyment while supporting local communities in enhancing their waste disposal practices. It also encourages citizens to reduce their use of single-use plastic products and increase recycling efforts. Additionally, the project seeks to educate the public on the importance of maintaining clean and healthy beaches, raising awareness about the threats that plastic and chemical waste pose to marine life, as well as focusing on collecting, classifying, and recycling waste to improve the quality of the coastal environment.
- On June 18, 2024, Students from various schools in Alexandria, along with students from the French Institute in Alexandria, collaborated with Alexandria University to participate in a large-scale cleanup campaign titled **"Our Sea is Clean Without Trash ♻🦈."** for Anfouchi beach. After cleaning the beach, the students discovered the process of transforming plastic waste through 3D printing at the Fab Lab at Alexandria University. This initiative is part of the "Circular Economy: From the Beach to the Lab" project, led by the French Consulate and the French Institute in Alexandria, with financial support from the European Union and in cooperation with the Alexandria Governorate and Alexandria University. The project aims to achieve partnerships for sustainability goals and to engage the local community in these efforts.

https://www.facebook.com/ifealexandrie/videos/445679398217899

Wastewater Treatment

Alexandria University has a system to prevent polluted water to enter the water system through Water quality analysis and monitoring.
The recycled irrigated water supplied to the fish farm at the Agriculture Experimental Research Station of the Faculty of Agriculture, is analyzed before using it to irrigate the crops, vegetables, and fruits of the land farm. In addition, the recycled water is used for crops culturing in the adjacent agriculture research center in Abis.

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

Elements of Green Building Implementation as Reflected in all new construction and renovation policies in the new buildings in Abis campus:

- The area of the project is 160 acres, a general site for educational buildings, and 120 acres are complementary activities. The percentage of green areas and lake is about 52% in addition to 25% streets and lanes.
- Water-saving plots are used, which will reduce water consumption by about 30%. The sewage water will be treated and reused in the irrigation of green areas in the project.
- Rainwater is collected in the main lake and used for irrigation.
- The use of plants with few water rationed plants to reduce irrigation needs in addition to absorbing quantities of rainwater to reduce the severity of rain spells.

Green Cycle project in the Faculty of Pharmacy - Alexandria University

The project began in October 2022 by organizing a number of events in cooperation between the Community Service and Environmental Development Committee, ASPSA, and the Alexandria Rotary Clubs, under the supervision and organization of Faculty of Pharmacy - Alexandria University.

Also, the faculty is seriously seeking to implement a grey water (wastewater) recycling system that depends on reusing wastewater from sewage basins only (without using wastewater from laboratory basins) by re-pumping it into the flushing bins in the toilets after work. Filtration and primary treatment. The grey water recycling initiative has a significant impact on rationalizing water use.

Also, taking advantage of rainwater for use in irrigation and regulatory operations.

Alexandria University have generalized this initiative in some of the faculties of Alexandria University in gradual stages.

Link for Green Cycle Project:

https://fb.watch/mzqhBHazV4/?mibextid=j8LeHn

Alexandria University is implementing and supervising projects in Alexandria Governorate and the neighboring governorates to conserve water, prevent waste, and promote recycling. Attached is the statement of operations and projects.

Serial	Name of the organization	Type of operation
1	Northern military area	Preparing designs and supervising the implementation of (13) wells in the center of Wadi Natroun - the governorate of the lake within the scope of the presidential initiative life Karima.
2	General Directorate of horizontal expansion of projects in the West Delta - Damanhour	Permanent supervision of the project of rehabilitation and lining of the branch of the Farhash Tara branch of the General Directorate of irrigation of Nubari - the lake "
3	General Directorate of Irrigation and West Lake	Inspection of Al-Hamrawiya Canal and Al-Rizq Canal - under the jurisdiction of the Irrigation Engineering - Kom Hamada Center.
4	General Directorate of Irrigation and West Lake	It is sponsored by Apia - led by Irrigation Engineering - Kom Hamadeh Center
5	General Directorate of Irrigation and West Lake	His previewing is Fahmy 1, 2-and Nubian 3-property
6	General Directorate of Irrigation and West Lake	Preparing a specialized technical study to study the efficiency of lining work for some conservation care
7	Al-Hamad Company for Contracting	A study of the cracks in the Tintin sponsored by the Al-Mashalah - General Administration of Irrigation and West East
8	Eng. / Morsi El-Morsi El-Zeftawi - Contractor	Prepare a report for its inspection and lining up sponsored by the Avendi
9	Al-Hamad Company for Contracting	Preparation of a study on the cracks occurring in the lining of the canal (Manzil Maimoun and Awlad Mousa).
10	The dream contracting company	Project for rehabilitating and lining the Khalij Barmbal Canal from Km 3.470 to the end - West Irrigation Road, Kafr El-Sheikh.
11	Cooperative Society for the Production of Architecture - Lake	Project for rehabilitating and lining the Eastern Dahiri Canal over a distance from the mouth to the end, with a length of 9.060 km, and the Qamish Canal from the mouth to Km 3.560, with a length of 3.560 km - Al-Buhaira.

12	Helwan diesel engine company	Rehabilitation project sponsored by the new agents, Amin Sayed Ahmed, the new agent feeder, sponsored by the war feeder.
13	General Manager of horizontal expansion and projects in the west of the Delta	Rehabilitation and lining project sponsored by " Khorshid " of the sand irrigation engineering under the control of the General Directorate of Lake Irrigation
14	Central Administration of Water Resources and Irrigation for Alexandria Governorate	Preparation of designs and subtraction documents for the rehabilitation project number 4 " sponsored by Abdul Qadir, sponsored by Kafr Al-Waq, sponsored by Zawiya Saqr Al-Jadida, sponsored by Zawiya Salem" of the General Administration of Irrigation Nubian - Alexandria
15	General Directorate of Irrigation and West Lake	Preparation of the required study regarding the Fire Line Canal and the Al-Ahkar Canal
16	General Directorate of horizontal expansion of projects in the West Delta - Damanhour	Preparation of the required study regarding the Ansariyah Canal link
17	The Irrigation and West Lake Department of the General Directorate of Water Resources and Irrigation in the Lake	Preparation of the required study for five canals (Garrar Ma'niya Canal, Afandia Link Canal, New Shisht Canal, and Al-Azimah Canal from the mouth to the end.
18	General Directorate of horizontal expansion of projects in the West Delta - Damanhour	Preparation of a study on the causes of bridges sponsored by Shakir under the leadership of the General Directorate of West Lake Irrigation - Shibrakhit Irrigation Engineering
19	General Directorate of horizontal expansion of projects in the West Delta - Damanhour	Preparation of a hydrological study for the rehabilitation and lining of the development of the island of the mosque under the control of the General Directorate of Lake Irrigation
20	The Egyptian Rural Company's wells project – Al-Mughaira region	The contract was signed between Alexandria University - Faculty of Engineering - Engineering Center and the Egyptian Rural Company
21	United Housing and Reconstruction Company	Preparation of an Environmental Impact Assessment study for plot number 31 in the second group of the subdivision, changing from residential to service use, for the benefit of the Ministry of Electricity and Energy
22	Alexandria International container Terminal Company	Preparation of an electrical study for the Alexandria Company for international container terminals located in the ports of Dakhila and Alexandria.
23	Egyptian Electricity Transmission Company	Conducting a study of the impact of the magnetic field of the electric link between the Arab Republic of Egypt and the Kingdom of Saudi Arabia on the oil and gas pipeline.
24	Alexandria Governorate and the sanitation Company	Integrated rainwater Management Strategy Project in Alexandria Governorate
25	Legal Representative of the American Private Word Life International School	Preparation of an Environmental Impact Report for the Word of Life American International Private School, located at Part 5, Housha 4, Lake Mariout Basin No. 8, Abis 10, Downtown District, Alexandria.

26	Legal Representative of the British Private Word Life International School	Preparation of an Environmental Impact Report for the Word of Life British International Private School, located at Part 5, Housha 4, Lake Mariout Basin No. 8, Abis 10, Downtown District, Alexandria.
27	Legal Representative of the Nawa Academy School	Preparation of an Environmental Report for Nawa Academy, located at Part 5, Housh 6, Street No. 8, Abis 10, Downtown District, Alexandria Governorate.
28	Al-Taher Modern Real Estate Investment Company	Preparation of an Environmental Impact Assessment study for the plot of land allocated to the company, located in the Sidi Abdel Rahman area, along the coastal road, with an area of 27,706 m², equivalent to (6.5) feddans.
29	Al-Taher Modern Real Estate Investment Company	Preparation of an Environmental Impact Assessment study for the plot of land allocated to the company, located in the Sidi Abdel Rahman Bahri area, along the coastal road, with an area of 19,083 m², equivalent to (4.5) feddans.
30	Major General / Ayman Abdel Haq El-Semlawi, the legal representative of Najm International School	Preparation of an environmental report for the brilliant Virginia International School.
31	Mr. Hani Mustafa Al-Sayed Al-Arabi Legal Representative of Alfa International School	Preparation of an environmental report for Alpha International School
32	Mr. Mohamed Abdel Fattah Hassan – owner of Al Qabas International School	Preparation of an Environmental Report for Al-Qabas International School, located at plot number 633 from 88 original, extending along Iskout Street with a width of 15 meters and extending along Mo'tamed Street with a width of 10 meters – Al-Manshiya Al-Bahriya – Alexandria.
33	Union of occupants of the Costa del Sol village	Preparation of an Environmental Impact Assessment study for Costa del Sol Village – North Coast, Km 82, Alexandria-Matrouh Road
34	Mr. Nabil Fawzi Hanna Makar - owner of the New Oxford International School	Preparation of an Environmental Report for New Oxford International School, located at plot number 1, 2, Basin 63, Lake Mariout - Downtown District - Alexandria.

Who are we

The Center of Excellence for Water is a USAID- funded program, managed by the American University in Cairo.

Its goal is to catalyze long-term improvement in Egyptian water resources management by improving its innovative applied research and educated enterprise.

Located at Alexandria University, and in cooperation with four Egyptian Universities (Ain Shams University – Aswan University – Beni Suef University – Zagazig University) and four U.S. Universities (University of California, Santa Cruz, Temple University, Utah State University, and Washington State University),

The Center of Excellence for Water is designed to be a state-of-the-art center that raises the quality of all aspects of higher education, including curriculum, teaching, and applied research to international standards.

The Center supports the Egyptian government, academia, and industry to address water challenges, and prepare a new generation of graduates and entrepreneurs to be change agents that stimulate economic growth.

Leveraging on the public-private partnerships established, the Center of Excellence for Water will be the hub for research and a vibrant network of Egyptian industries, research centers, and ministries.

Exchange, Training and Scholarships

Role of Pillar

Strengthen the capacity of Egyptian Faculty, students and researchers and promote the exchange of expertise, knowledge, and technology in the water discipline between U.S. partner universities and industries and the Egyptian government, academia, and private sector.

Key Activities

- Providing 350 undergraduate/ graduate full scholarships in specialized water programs.
- Funding one-semester abroad in U.S.-Based Universities for selected undergraduate/ postgraduate students.
- Providing internship opportunities in U.S/ Egyptian industries for undergraduate/ postgraduate students.
- Building the capacity of Egyptian Faculty on governance, research and instructional innovation.
- Conducting training workshops at U.S.- Based Universities.
- Organizing faculty Exchange between the U.S. Universities and the Egyptian universities.
- Organizing more than 20 webinars on water-related topics.

High-quality Applied Research

Role of Pillar

Elevates Egypt's water-related research capacity and ability to create policy-relevant, innovative, and market-driven research products.

Key Activities

- Funding 42 high-quality applied research projects to address water-related challenges.
- Developing a National Water Research Roadmap.
- Organizing Annual International Water Symposium.
- Promoting the linkage between supply and demand for water research by engaging the public and private sectors in research initiatives.

Instructional Innovation and Curriculum Development

Role of Pillar

Improve the relevance and quality of the water curricula in partner Egyptian Universities to meet the needs of the public and private sectors and introduce innovative teaching methods for undergraduate and graduate students in water-related fields.

Key Activities

- Developing and updating new/ existing undergraduate water-related programs to strengthen their water dimensions.
- Establishing two new Graduate programs in Sustainable Water Management.
- Developing 12 new undergraduate water-related courses.
- Developing 18 new postgraduate water-related courses.
- Establishing four new Professional Certification Programs.
- Developing nine Water Resources Career Development Modules.
- Introducing innovative teaching methods and supporting online learning management systems.

Governance

Role of Pillar

Establish the governance structure of the Center of Excellence for Water at Alexandria University that would enable the center to create collaborations and maintain accountability among partners and stakeholders.

Key Activities

- Establishing of the Center of Excellence for Water at Alexandria University
- Establishing Center of Excellence for Water Advisory Committee
- Establishing Center of Excellence for Water steering Committee
- Developing the Center of Excellence for Water guidelines for reporting, agreements, and documentation system.
- Signing MoUs with the key private and public sectors.
- Developing the Center of Excellence for Water Strategic Plan.

Sustainability

Role of Pillar

Ensure the institutional and financial sustainability of the Center through revenue generation and the creation of a network of partners from the public and private sectors.

Key Activities

- Organizing Public-Private Partnership Seminars
- Expanding the Center of Excellence for Water network to include more partners in the US and Egypt.
- Developing revenue-based models to ensure the financial sustainability of the Center of Excellence for Water.
- Establishing the Center of Excellence for Water Website and dissemination Channels.
- Developing water-specific technical publications.

Activities

Governance and strategic planning workshop:

The COE conducted a workshop, titled ‘Governance and strategic planning workshop in cooperation with Washington State University from 24th of October to 29th of October 2021.

the workshop discussed the academic or COE’s related governance mechanisms appropriate for a national water center. This is to build a sustainable governance structure for AWR-COE

Exchange Opportunities for Faculty and Graduate/Undergraduate Students:

There are many opportunities for Faculty and Students at the Egyptian Partner Universities to apply for several activities:

Water Energy Food Nexus Winter School

Water Energy Food Nexus Winter School (Faculty and Graduate Students)– Cairo organized by the AUC: 1 November 2021 – 31 January 2022

Water Quality and Equipment Testing Workshop

Water Quality and Equipment Testing (Faculty and Graduate Students) – US – organized by Temple University.

First Call

From 29 November to 10 December 2021.

The workshop covered several topics as: a. Lab safety training and Laboratory Compliance, b. Introduction to water quality parameters, c. State of the art equipment used in water quality analysis, d. Quality control and Quality Assurance (QA/QC), e. Precision and Accuracy, f. pH, Acidity, Alkalinity & Hardness, Dissolved Oxygen, Turbidity, TSS, DSS, VSS, g. Total Organic Carbon, Chemical Oxidation Demand (COD), and 5-day Biological Oxidation Demand (BOD), h. Inorganic chemicals (Fluoride, Chloride, Nitrates, etc.), i. Disinfection By-Products, j. Microbial Enumeration, k. Use of TOC Analyzer, Ion Chromatograph (IC), UV/vis Spectrophotometer. In addition to: a. Seminars from industry experts, b. Field Trip to Drinking Water Treatment Plant, c. Field Trip to Municipal Wastewater Treatment Plant.

Second Call

Module 1:

From 31 July to 13 August 2022.

The workshop covered several topics as: a. Introduction to conventional water quality parameters, b. Acidity, Alkalinity, and Hardness, c. pH, Conductivity, Turbidity, and Solid analysis (TS, TDS, TSS and VSS), d. Dissolved Oxygen, 5-day Biological Oxidation Demand (BOD), Chemical Oxidation Demand (COD), Theoretical Oxidation Demand (ThOD), e. Total Organic Carbon analysis, f. Microbial Enumeration, g. Precision and Accuracy, and Quality control and Quality Assurance (QA/QC), h. Lab safety training and Laboratory Compliance, i. Water Sampling.

Module 2:

From 17 to 30 July 2022.

The workshop covered several topics as: a. State of the art equipment's used in water quality analysis, b. Inorganic chemicals (Fluoride, Chloride, Nitrates, etc.) using Ion Chromatography (IC), c. Use of advanced analytical instruments such as Gas and Liquid Chromatography-Mass Spectrometry (GC/MS, LC/MS/MS), d. Inductively Coupled Plasma Mass Spectrometry (ICP/MS), e. Gene detection and quantification using Quantitative Real-Time Polymerase Chain Reaction (qPCR), f. Quality control and Quality Assurance (QA/QC), including Precision and Accuracy, g. Solid phase extraction (SPE) and Liquid phase extraction (LLE), h. Lab safety training and Laboratory Compliance.

The State-of-the-Art Water Curriculum workshop

USAID-funded Center of Excellence for Water launches a total of four workshops on the use of Learning Management Systems, Innovative Teaching Strategies, and State-of-the-Art Water Curriculum. The State-of-the-Art Water Curriculum (SOAC) workshop is held on 27 and 28 June 2022 at Alexandria University. This workshop brings together 25 faculty, faculty teaching assistants, researchers, water professionals from industry and municipalities, and ministry personnel.
Over the course of seven months (between July 2022 – February 2023), participants will work in groups to create a set of recommendations for future water science and engineering

targeted at meeting Egyptian water challenges in 2035 in all organizations with a water focus.
The main lecturer for this Workshop include Dr. David Stevens, Professor at Civil and Environmental Engineering, @utahstate. Additionally, representatives from Egyptian Partner Universities Ain Shams University, Alexandria University, Aswan University, Beni Suef University and Zagazig University will be attending to help with the activities.

The ultimate goal of this workshop is to produce a report and roadmap to help inform water engineering and science education in Egypt to meet the future needs of the water sector with a target date of 2035.
The workshop's main objectives are to review the state-of-the-art water engineering and science issues critical to Egypt's long-term water security and water engineering and science curricula in Egypt and the greater Middle East, Europe, Asia, and the Western Hemisphere; envision Egypt's water needs by 2035, both quantity, and quality, that will serve the domestic, agriculture, industrial, and energy sectors, and identify education gaps that will prevent providing professional training to meet those needs. Also, the workshops aim to identify subject areas that are critical to defining a core curriculum suitable for all Egyptian Universities, identify location-specific curricula to be used as technical electives tailored to the needs of a community, and discuss how those needs are best translated to the undergraduate, postgraduate, ministry, and industry levels and cultivate a community of practice (CoP) as a means of managing knowledge sharing and promoting learning sustainability among faculty members and water professionals in Egypt.
By the end of this program, participants will reconvene in Aswan in February 2023 for a 5-day workshop to bring together their recommendations into an overall State-of-the-Art Water Curriculum Report and Roadmap to help inform water education into the future.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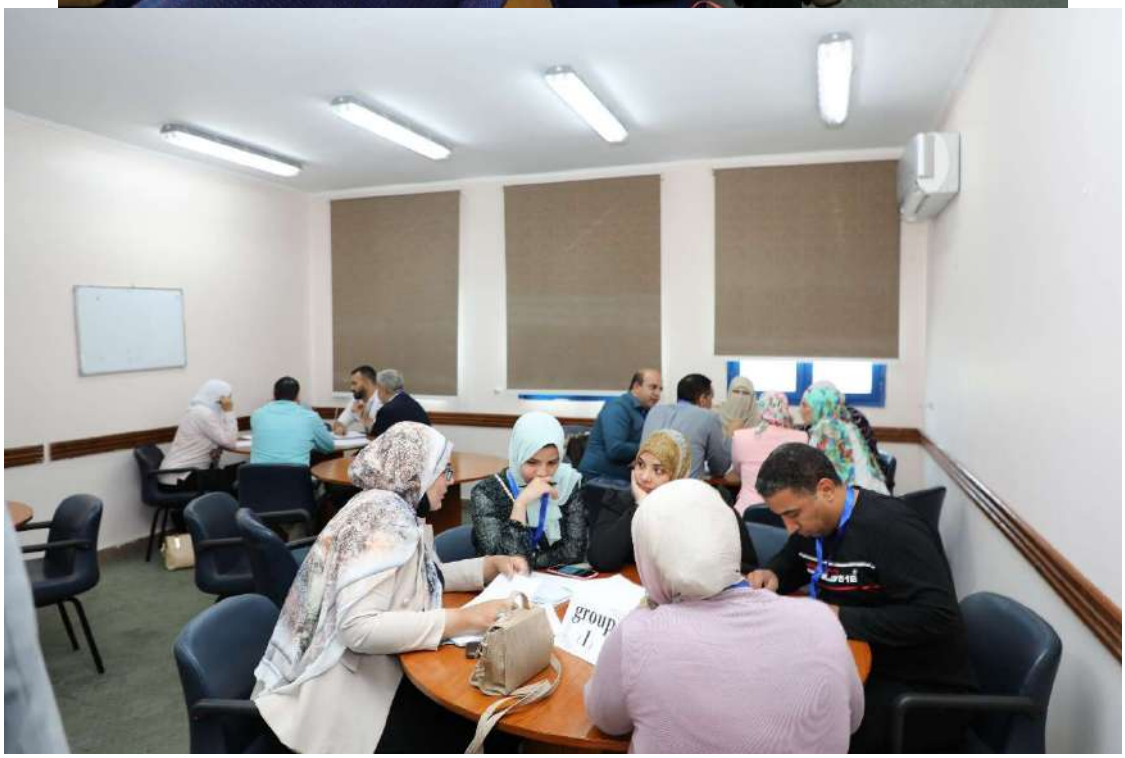

Faculty Exchange – Semester Abroad

First

Host: Temple University
From 09/01/2022 – 12/31/2022.

Opportunity for advanced training on education and research, leading to capacity building and sustainability takes part in the Center of Excellence for Water activities for faculty. The faculty exchange program will strive towards meeting these envisioned goals through teaching and applied research capacity building, peer-reviewed publications, and technology commercialization activities.

Second

Host: Utah State University
From 09/01/2022 – 12/16/2022.

Opportunity for advanced training on education and research, leading to capacity building and sustainability takes part in the Center of Excellence for Water activities for faculty. The faculty exchange program will strive towards meeting these envisioned goals through teaching and applied research capacity building, peer-reviewed publications, and technology commercialization activities.

Undergraduate Semester Abroad – USU

Host: Utah State University
From 08/20/2022 – 12/16/2022.

The students will take courses at Utah State University that have been previously articulated with coursework at their home universities. These courses include hydrology, hydraulics, green infrastructure, solid/hazardous waste management, environmental management, and environmental quality analysis.

The First International Symposium

The International Symposium on “Sustainable Water Solutions”, organized by the Alexandria Water Resilience – Center of Excellence for Water, which is bringing together leading experts from Egypt and the United States to find solutions to problems caused by climate change in Egypt and around the world.
This annual event gathers prominent scientists and leading engineers to present their findings and research outputs and share their knowledge in four areas of the water field, namely, Water Use Efficiency, Integrated Water Resources Management, Safe Treated Water and Reuse, and Non-Conventional Water Resources and Desalination with climate change in the core.


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Training for Undergraduate Students

The program's students visited the drinking water treatment plant in Alexandria (Al-Mansheya 2) to learn about the stages of water purification and the plant's boredom.

Training for civil and environmental engineering students at the Eastern Wastewater Treatment Plant in Alexandria.

Badya, Palm Hills, 6 October construction site visit for Civil and Environmental Engineering program Students.