

Template for Evidence(s) UI GreenMetric Questionnaire

University : Alexandria University
 Country : Egypt
 Web Address : www.alexu.edu.eg

[6] Education and Research (ED)

[6.12] Sustainability Report

[1] Setting and Infrastructure (SI)

Number of Campus Sites: 34



	
<p style="text-align: center;">University Administration Building (Alexandria University)</p>	<p style="text-align: center;">Faculty of Engineering (Alexandria University)</p>
	
<p style="text-align: center;">Faculty of Science (Alexandria University)</p>	<p style="text-align: center;">Faculty of Dentistry (Alexandria University)</p>

The total area on campus covered in planted in the University of Alexandria campus is 4070666.23 m². The total building area in the campus is 2385538.832 m², while the open area is 1627003.212 m².

In 1938, the nucleus of the Alexandria University (formerly known as Farouk University) had its beginning in the form of two faculties of Fouad the First University. These were the faculties of Arts and Law. The faculty of Engineering was then established in 1941. In the light of the need for developing more disciplines for higher learning and with a view towards meeting the need of the people of Alexandria, Alexandria University became a separate entity in August 1942 with four additional faculties: Science, Commerce, Medicine and Agriculture. In 1952, it became "Alexandria University". Since then, the University witnessed growth and expansion in several fields: the number of Faculties and high institutes increased to 24.



Alexandria University supervised the establishment of four faculties in the Nile Delta. Those were: Faculty of Medicine (1962) and Faculties of Science (1969) in Tanta (currently Tanta University), Education and Agriculture (1969) in Kafr-Elsheikh (currently Kafr-Elsheikh University).

Seven other Faculties were established in Damanhour, the capital of Behera Governorate: Faculty of Education (1980), Faculties of Arts, Agriculture, and Commerce (1983), Science, Veterinary Medicine, and Nursing (2007) (currently Damanhour University).

In 1989, the Faculties and Institute affiliated to Helwan University and located in Alexandria joined the Alexandria University by a Presidential Decree: four Faculties of Physical Education for men, Physical Education for women, fine Arts, and agriculture at Saba-Basha.

A Faculty of Basic Education was also established in 1991, faculty of tourism & Hotels, Faculty of Agriculture, Faculty of Veterinary, Medicine and Faculty of Nursing in Marsa-Matrouh Governorate, 300 Km west of Alexandria.

In 1998, two Faculties affiliated to the ministry of Higher Education, joined the Alexandria University: Kindergarten Teachers Training and Specific Education.

Believing in its role towards Arab and African countries, Alexandria University established in 1960 in Beirut, Lebanon, "Beirut Arab University" which is run and supervised by educational and administrative cadres from Alexandria University.

Recently, Alexandria University is working on the establishment of a branch in Juba, south of Sudan, and in N'djamena in Tchad.

The slogan of Alexandria University Contains the Lighthouse of Alexandria which is a huge building on the island of Pharos at the entrance of the eastern port of Alexandria, constructed in the era of Ptolemy II at about 280 BC.

The National Alexandria University was established last academic year (2022/2023), with 9 undergraduate Programs (attached is a list of the new programs).

Study began at Alexandria National University at its headquarters in New Smouha, starting from the academic year 2022/2023, in nine programs that grant bachelor's degrees, as follows:

- 1 - College of Medicine - Medicine and Surgery Program.
- 2 - College of Dentistry - Oral and Dental Medicine and Surgery Program.
- 3 - College of Pharmacy - Pharm de Clinical Program.
- 4 - College of Engineering (Architecture and Construction Program - Computers and Communications Program - Mechatronics and Robotics Engineering Program).
- 5 - College of Computer and Data Sciences (Cybersecurity Program - Smart Systems Program).
- 6 - College of Science - Software and Multimedia Industry Program.

Campus Setting

Alexandria Campus is located in several campus cites, some of them are located in the city center such as: The medical complex, Faculty of Science in Moharram Bek, Faculty of Engineering, Campus of Humanities and Social Sciences, Faculty of fine Arts, Faculty of Specific Education, Faculty of Early Childhood Education, Faculty of Agriculture Saba Pasha, Expatriate Student Housing Saba Pasha, Medical Research Institute (Horia Street - Smouha), Higher Institute of Public Profession, Institute of Graduate Studies and Research, Central Library, Student Activities Center, Community service center, printing press, club and garage – Smouha, University Stadium (Student Service Center), Youth Care, University land in Smouha (College of Nursing - Children's Hospital - Faculty members residences), Land of Mouwasat Hospital.

Other Campus cites are located in Suburban area such as: Faculty of Physical Education for Boys, Faculty of Physical Education for Girls, Veterinarians Abis, Saba Basha Babis tenth farm, Bagushe, Burj Al Arab International Medicine, Pigeon farm (affiliated with the Faculty of Agriculture), Earth of the globe, The farm



land of the Faculty of Agriculture, Saba Basha, in the area of Khemisa, Siwa Oasis, Break of the Faculty of Science in the old Burj Al Arab, International Media (Burj Al Arab), The land of Wadi Natrun, Abis Campus.

The total area of the campus cites is 8083208.274 m²

Total campus buildings area: 6795394.87 m²

Total Campus ground floor area of buildings: 2385538.832 m²

Ratio of open space towards total area: 20%

Total Area on Campus Covered in Forest Vegetation (meter²): 1,016,009.545 m²

The forest area in Egypt is very rare. Saba Basha Abis tenth farm, the farm land of the Faculty of Agriculture, Saba Basha, in the area of Khemisa, Siwa Oasis (Alexandria University, Egypt), the land of Wadi Natrun and International Media (Burj Al Arab) has an Area on the campus covered in plants and trees.

Total area: 1,016,009.545 m²

Total area on campus covered in planted vegetation (meter²) = 4070666.23 m²

Total Campus Area: 8083208.274 m²

Percentage planted area: 50%

Total area on campus for water absorption besides the forest and planted vegetation (meter²)

Total **water absorption** area: 5697669.442 m²

Total Area: 8083208.274 m²

Percentage area: 70%

University budget for sustainability effort (in US Dollars)

	2020	2021	2022	Average
Budget Total	\$ 187,207,054	\$ 193,728,698	\$ 337,492,433.22	\$ 239,476,062
Sustainability Budget	\$ 58,251,507	\$ 36,209,262	\$ 44,376,076.3	\$ 46,278,948.4
		Percentage		19.3 %

The average percentage of Alexandria University budget for sustainability effort is 19.3%.

Percentage of operation and maintenance activities of building in year 2022

Total campus buildings area	6,795,394.87 m ²
Total operated building	2,532,225.5 m ²
Percentage building that operated and maintained	37.26 %
The University total budget 2022	\$ 337,492,433.22
The University total sustainability budget 2022	\$ 44,376,076.3
The University budget for Maintenance 2022	\$ 28,723,371.8
The percentage of budget for Maintenance	8.51%

Campus facilities for disabled, special needs and or maternity care

10 REDUCED INEQUALITIES



Taha Hussein Centre for the support of disabled people (Alexandria university, Egypt)



Alexandria University campus facilities for people with special needs, the disabled and maternity care (Disables Service Center on the Faculty of Commerce)

	
<p>Replacing steps with ramps for disabled people (Faculty of Engineering - Alexandria University)</p>	<p>Accessible toilet (Alexandria University)</p>

1. Taha Hussein Centre for the support for disabled people.
2. Alexandria University campus facilities for people with special needs, the disabled and maternity care. Disables Service Center on the Faculty of Commerce: 1) There is a corridor to facilitate their movement with wheelchair. 2) The elevators are available for any student with special needs. 3) There are wheel chairs in the Faculties for emergency and special cases. 4) The University has prepared a special place in the campus as clinics for the conscription site to physically examine the students with special needs and give them certificates of exemption from conscription, as a contribution from college to reduce burden on them and their families.
3. Replacing steps with ramps for disabled people Alexandria University.
4. Accessible toilet for disabled people.

Training courses for children and people with special needs

The Educational Services Center - Faculty of Education, Alexandria University

Description: The Educational Services Center provides training courses for children and people with special needs. The Programs provided by the center and the number of trainees is given in the Tables below.

Training programs developed from March 2020 to October 2023

No.	Program name	Number of levels	Hours per level
1	Teaching people with visual impairment how to use Braille	1	18
2	Cognitive behavioral therapy	1	12
3	Emotional behavioral therapy	1	12
4	Behavioral therapy	1	12
5	Occupational therapy and dealing with cerebral palsy	1	18
6	"Pooled Projective" Clinical Tests	1	18
7	Foundations of psychological evaluation of children	1	12
8	Art psychotherapy	1	18



A. Courses implemented from March 2020 to December 2020

No.	Program		June	August	September	October	November	December
1	Educational Qualification		Number of courses		10	1	5	1
			Number of trainees		263	32	188	25
2	first level	Number of courses	1				1	
		Number of trainees	20				24	
3	second level	Number of courses		1			1	
		Number of trainees		17			18	
4	third level	Number of courses						2
		Number of trainees						34
5	forth level	Number of courses				1		
		Number of trainees				23		

B. Courses implemented from January 2021 to December 2021

No.	Program		Jan	Feb	Mar	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Educational Qualification		Number of courses		6	2	3	1	3	5	1	2	2
			Number of trainees		208	58	82	28	92	173	30	61	79
2	first level	Number of courses								1			
		Number of trainees								54			
3	second level	Number of courses										1	
		Number of trainees										46	
4	forth level	Number of courses							1		1		
		Number of trainees							18		16		
5	fifth level	Number of courses						1	1			1	
		Number of trainees						21	17			13	
9	learning difficulties		Number of courses					1					
			Number of trainees						23				
10	Behavior Modification		Number of courses					1					
			Number of trainees						28				
11	Skills Development		Number of courses							1			
			Number of trainees								22		

C. Courses implemented from January 2022 to December 2022

No.	Program		Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
1	Educational Qualification	Number of courses	10		1	3	4	4	2	5	3	2	1	
		Number of trainees	110		28	129	116	137	77	163	117	83	33	
2	Communication	first level	Number of courses	1							1			
			Number of trainees	24								58		
3		second level	Number of courses		1								1	
			Number of trainees		23									32
4		third level	Number of courses	1				1						
			Number of trainees	29				24						
5		forth level	Number of courses							1		1		
			Number of trainees							24		20		
6		fifth level	Number of courses										1	
			Number of trainees											19
9	learning difficulties	Number of courses							1					
		Number of trainees							50					
10	Behavior Modification	Number of courses		1										
		Number of trainees		24										

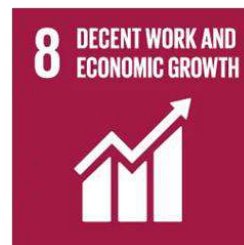
D. Courses implemented from January 2023 to October 2023

No.	Program		Jan	Feb	Mar	Ma y	June	July	Aug	Sep	Oct	
1	Educational Qualification	Number of courses	5	3		2	1	6	4		3	
		Number of trainees	150	79		77	42	174	141		121	
2	Communication	first level	Number of courses		1							
			Number of trainees		31							
3		second level	Number of courses			1						
			Number of trainees			26						
4		third level	Number of courses		1					1		
			Number of trainees		30					23		
5		forth level	Number of courses			1						

			Number of trainees			28					
6	fifth level		Number of courses						1		
			Number of trainees						48		
8	learning difficulties		Number of courses			1					1
			Number of trainees			24					28
9	Behavior Modification		Number of courses			1					1
			Number of trainees			33					32
13	Skills Development		Number of courses						1		
			Number of trainees						24		

Security and safety facilities

1. Fire extinguisher and sand buckets (Alexandria University).
2. Fire Exit (Alexandria University): There is an emergency exits in all faculty buildings with fire exit plan
3. Security Doors for the Exam control rooms (Alexandria University).
4. Fire alarm call point
5. Fire Alarm (smoke detector)
6. Fire extinguisher and description of how to use it properly (Alexandria University)
7. Video surveillance systems are deployed at various locations within a university campus to enhance security, safety, and operational efficiency. Video surveillance systems are used to monitor the outside perimeter and entrance of all University buildings.
8. Each Faculty at Alexandria University has a student team for occupational safety and health. The student attend several workshops during the academic year. Workshops, seminars, and awareness campaigns educate the students about safety and health issues, including fire safety and personal safety. The student teams play a crucial role in promoting and maintaining a safe and healthy environment.
9. The student team conduct regular safety inspections of campus facilities and report any safety hazards to the university administration for prompt rectification.



Fire extinguishing systems in faculties and institutes of the university





Hospitals: The firefighting system is currently being changed from the manual system to the automatic fire network system. For example, in Smouha University and the main university hospital (Automatic sprinkler system "Water" FM 200).

Universities: All Universities are still operating with the manual extinguishing system:

- 1- 45 inch water networks and 3 inch water networks.
- 2- Mobile extinguishers system
 - a) CO₂ Extinguishers

- b) Powder extinguishers
- 3- There is an emergency exits in all faculty buildings with fire exit plan.

All devices are subject to annual maintenance (attached pdf file). The attached pdf is an example of Minutes of the Occupational Safety and Health Committee meeting, which is held every three months. The Committee make a yearly plan. In the meeting they discuss their activity program and regularly discuss any problems observed during this period.

	
<p>Fire distinguisher and description of how to use it properly (Alexandria University)</p>	<p>Security Doors for the Exam control room (Alexandria University)</p>
	
<p>Video surveillance system at Alexandria University</p>	



Student Team Program for Occupational Safety and Health Faculty of Science Alexandria University 2022/2023

Aim of the Program

- To complement the role of the Safety Unit at the Faculty of Science in raising awareness of the concept of occupational safety and health.
- To apply the requirements of occupational safety and health in the Faculty of Science in all its buildings and departments.
- To achieve the practical application of the students for the occupational safety and health course 040306225 which has become a course that meets the needs of the labor market for our country's promising youth.
- To complement the unit's summer activity, which began in spring 2021.

Program Subject:

The program includes Five main activities:

- 1- **Lectures** from specialists in the field of occupational safety and health.
- 2- **Workshops** that serve the field of occupational safety and health such as first aid and fire fighting....etc.
- 3- **Field visits** to different and diverse companies to learn how to apply occupational safety and health requirements in various installations.
- 4- **Field training in the faculty**

The training is carried out under the supervision of a coordinator from each department of the faculty. It includes how to apply occupational safety and health requirements in the faculty and its various departments to avoid various work risks, by applying different activities. For example: arrangement, organization and indexing of chemicals (soft and hard copies) in the various laboratories of the faculty. Preparation of the material safety data sheet of Hazardous Chemicals (MSDS).

- An inventory of occupational safety and health equipment located in the different departments of the faculty (fire extinguishers of all kinds, sand buckets, first aid boxes, emergency signs... etc).

5- **E-Activity**

The electronic activities include performing the following topics:

- ❖ Preparing a guide for the application of safety requirements with the use of local and international references.
- ❖ How to prepare an emergency, evacuation and working group plan.
- ❖ How to dispose of waste and its types - mechanisms used (references).
- ❖ How to prevent and respond to fires (different causes).
- ❖ Designing an opinion poll on the extent of awareness of the general requirements for safety among college students with its circulation and analysis.
- ❖ Safety guidelines in laboratories (during experiments and after completion) according to disciplines - chemistry - physics - computer - geology and biology.
- ❖ Preparation and design of awareness videos ((Infograph).
- ❖ First Aid Guide

Lectures from specialists in the field of occupational safety and health:

Lecturer	number of students	Lecture Title
Dr. Ebraheem Abdel Hakeem Sustainable Development Consultant	161	Water, Human Health and Sustainability
Dr. Shereen Younes Director of the Occupational Safety and Health Department at the Directorate of Labor in Alexandria	114	Occupational Safety and Health Legislation
Eng. Gehan Hafez Head of Occupational Safety and Health Sector at the Electricity Company	107	Securing the work environment from fires and electrical hazards
Eng. Mohamed Abou El Wafaa Director of the Occupational Safety and Health Department at Alexandria University	66	Occupational Safety and Health Requirements and Emergency Plan

Workshops serving the field of occupational safety and health

Lecturer	Number of students	Workshop Title
A first aid trainer at the Red Crescent	191	First Aid
Drinking Water Company	161	Water and Human Health
Occupational safety and health officials at the faculty	105	Fire Fighting using different kind fire extinguishers





Field visits to different and diverse companies

Number of Students	Company
23	Egyptian Petrochemicals Company
22	Alexandria Company for Mineral Oil
15	Company of Oil Extract Products
28	Petrojet
30	Alexandria Company for Petroleum Additives

Egyptian Petrochemicals Company



Petrojet



Field training at the Faculty



Health infrastructure facilities for students, academics and administrative staffs' wellbeing

1. The Faculty of medicine, Alexandria university is built on 225867 square meter surface area with all its different campuses including Main University Medical Complex, ELshatby, Elhadara, Smouha, Elmoassat and Borg Elarab campus.
2. Students teaching rooms compromise 12443.36 square meter from the faculty total surface area.
3. Alexandria University Medical Complex compromise seven buildings including Academic building, internal medicine building, Surgery building, conference center, Training center, Outpatient clinics, New university hospital building with total surface area 77154.
4. EL-shatby hospital compromise one building for obstetrics and gynecology department with total surface area 33288 square meter.
5. El Hadra Hospital compromise two buildings for orthopedics and neuropsychiatry with total surface area 21975 square meter.
6. Smouha hospital compromise two buildings for Emergency and pediatrics with total surface area 23691 square meter.
7. El-Mosaat hospital compromise eighteen teaching rooms with total surface area 23104 square meter.
8. The University Hospital contains 22 clinic as therapeutic units in all Faculties.





Conservation: plant, animal, and wildlife, genetic resources for food and agriculture secured in either medium or long-term conservation facilities

- Green House (Faculty of Veterinary Medicine).
- Plantation (Faculty of Veterinary Medicine).
- Cattle Farming (Faculty of Veterinary Medicine).
- Botanic Garden (Faculty of Science in Moharram Bek).
- Botanic Garden, Green House (Faculty of Science in Moharram Bek) and its location in Alexandria City.
- Wildlife Conservation of some important fern.
- Preparation of Herbarium sheet for conservation plant species.



Botanic Garden (Faculty of Science in Moharram Bek)

The university botanic garden at the Faculty of Science is valuable to the educational and training facilities available to staff and students. In it, students can come to close intimacy with plants, use their senses of touch, smell and taste in familiarizing themselves with life features of plants, and develop their observation abilities in studying plants as they grow, mature and regenerate. Information intake is considerable. Land plots, greenhouses and sheds provide space for field experiments that may be part of botanical garden accumulates experiences and knowledge related to plant life; grasping this wealth of information and documenting it is a most welcome enterprise.

University botanic gardens often accommodate exotic species brought in to represent: (1) diverse ecological conditions in world biogeographical regions, and (2) diverse taxonomic groups of the plant kingdom. Husbanding and nursing these alien plants may need innovative means. This broadens the scope of work. The University botanical garden of Alexandria has its shares of these general attributes.

	
<p>Botanic Garden (Faculty of Science in Moharram Bek)</p>	<p>Botanic Garden, Green House (Faculty of Science in Moharram Bek)</p>

THE BOTANIC GARDEN

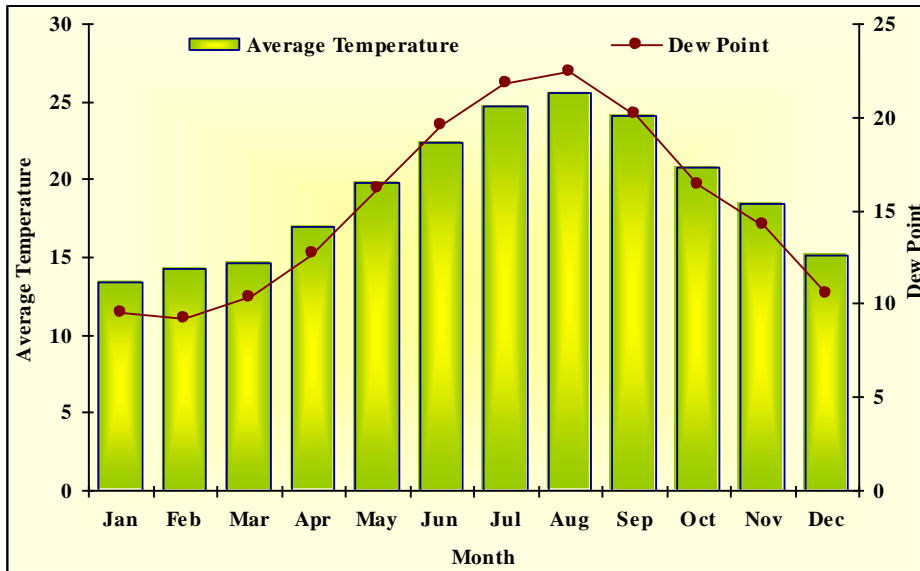
The Botanical Garden is an institution holding documented collections of living plants for the purposes of scientific research, conservation, display and education.

In 1942, a botanical garden was established at the Southern area of Muharrem Bek building (**Faculty of Science, King Farouk University**), between the coordinates: N: 31° 11' 19.38" E: 29° 54' 28.14", (Figure 1) and constituted a facility for education as well as for scientific research. Since 1942, the Botanical Garden was greatly developed and was provided with different plant species especially trees and shrubs introduced from different regions by Professor Mohamed Aziz Fekry (the Dean of Faculty of Science and Head of Botany Department 1948- 1958). It was consistently ranked as one of the top gardens by the International Union for Scientific Gardens (International code is **ALEX**), and holds some of the rare and most impressive species that facilitate improved learning, and teaching students; the purpose for which it was designed.

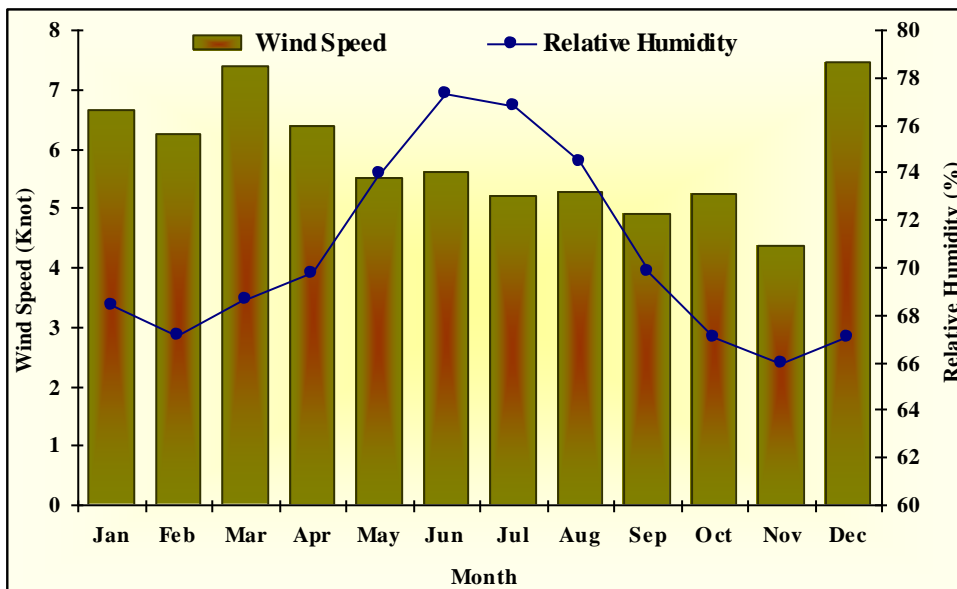
This area (about 1.4 hectares) is of international concern attracting a large number of overseas visitors, who come specially to see its collections. Although these are the main objectives, care has been taken to make the garden inexpensive to maintain, as well as interesting and attractive so as to provide for the local community, staff and students the garden as a reference collection.

According to the Global Strategy for Plant Conservation (GSPC), it is very important to put this garden on the schedule which means, listing and conserving all the garden's collections to become known, at least at the regional levels and next on the international level. With more than 455 species and 24 infraspecific epithets (subspecies, variety, forma), indigenous and introduced, in the Botanical Garden of the Faculty of Science, most of them represent tropical, subtropical, temperate species and the rest belong to the Mediterranean zone. This number is a very significant proportion of the Egyptian flora, as they belong to 121 families (total flowering plant families, which are treated 128 Boulos, 2005) while, the families treated in the checklist 2009 are 129 (Boulos, 2009). On the other hand, this garden is characterized by its high diversity, so the conservation of this plant diversity is both an enormous challenge and significant regional and national responsibility. It is well recognized that the plant diversity represents the greatest source of renewable natural resources of any country. More than 25% of plant species of this botanical garden are of medicinal value, about 14% of them are used as timber and good source of valuable wood. While 86% of the botanic garden species are used in decoration. All of these species are used as teaching materials for the students of biology. Some families appear in this book under two names, e.g. Compositae and Asteraceae. According to the "International Code of Botanical Nomenclature" (ICBN) both names are accepted. In other words, one is not a synonym of the other; these are alternative names and any or both of them could be used to refer to the same family (cited by Boulos, 2009).

Recently (in 2003) according to the Botanical Gardens Conservation International (BGCI), *ex-situ* conservation by vegetative propagation of rare species is carried out in the green houses of the Faculty of Science, Botanic Garden. For the purpose of genetic resources conservation, exchange of plant species with other botanic gardens and bulk collection of seeds representing most of plant species cultivated in the garden is also currently executed.



Temperature, dew point, relative humidity and wind speed on Alexandria city (Averages of the last five years, after El-Gendy, A. Personal Communication).



Published Book:

Heneidy, S. Z. (2010). Plant Atlas: the botanic garden (ALEX). *Monchaat Al-Maaref, Alexandria*. 632 pp.



The Areas of the University Sites

NO	Campus	The area in square meters	Total Campus ground floor area in square meters	Total campus building area in square meters	Open Area in square meters	Total Area on campus covered in planted
1	University administration building	1940	1940	5820	0	0
2	Faculty of Physical Education for Boys	113311.93	33993.579	52764	22662.386	56655.965
3	Faculty of Physical Education for Girls	2891	867.3	12264.65	578.2	1445.5
4	The medical complex	91216	27364.8	35415.985	18243.2	45608
5	Faculty of Science in Horia Street	22197	6659.1	21248	4439.4	11098.5
6	Faculty of Science in Moharram Bek	5485	1645.5	17305	1097	2742.5
7	Faculty of Engineering	111034	30152	564046.205	22206.8	58675.2
8	Campus of Humanities and Social Sciences	80707	24212.1	106283	16141.4	40353.5
9	Faculty of fine Arts	2569	770.7	13068	513.8	1284.5
10	Faculty of Specific Education	1194	1194	1972.92	0	0
11	Faculty of Early Childhood Education	1407	422.1	1370.25	281.4	703.5
12	Medical Research Institute (Horia Street - Smouha)	2500	2500	19200	0	0
13	Higher Institute of Public Profession	700	700	2800	0	0
14	Community service center, printing press, club and garage - Smouha	3110	933	3110	622	1555
15	University Stadium (Student Service Center)	33831.7	10149.51	10149.51	6766.34	16915.85
16	Youth Care	1500	450	3000	300	750
17	Veterinarians Abis	141639.91	42491.973	42491.973	28327.982	70819.955
18	Saba Basha Babis tenth farm	202342.72	60702.816	60702.816	40468.544	101171.36
19	Bagushe	182108.45	54632.535	182108.45	36421.69	91054.225
20	Burj Al Arab International Medicine	1420445.92	426133.776	1420445.92	284089.184	710222.96
21	El Hamam Pigeon farm (affiliated with the Faculty of Agriculture)	1274759.16	382427.748	1274759.16	254951.832	637379.58
22	Earth of the globe El Maamoura	33386.55	10015.965	33386.55	6677.31	16693.275
23	The farm land of the Faculty of Agriculture, Saba Basha, in the area of Khemisa, Siwa Oasis	404685.45	121405.635	121405.635	80937.09	202342.725
24	University land in Smouha (College of Nursing - Children's Hospital - Faculty members residences)	105218.22	31565.466	105218.22	21043.644	52609.11
25	Break of the Faculty of Science in the old Burj Al Arab	21475.98	6442.794	21475.95	4295.196	10737.99
26	Land of Mouwasat Hospital	20234.27	6070.281	2023.27	4046.854	10117.135
27	The land of Wadi Natrun	4545	1363.5		909	2272.5
28	Abis Campus	2225769.96	667730.988	2225769.96	445153.992	1112884.98
29	Institute of Graduate Studies and Research	2764	829.2	4146	552.8	1382
30	Central Library	600	180	720	120	300
31	Student Activities Center	2270	681	1362	454	1135
32	Faculty of Agriculture Saba Pasha	144200.934	2561.03	2561.03	40468.544	101171.36
33	Expatriate Student Housing Saba Pasha	722.2	216.66	866.64	144.44	361.1
34	International Media (Burj Al Arab)	1420445.92	426133.776	426133.776	284089.184	710222.96
	Total	8083208.27	2385538.8	6795394.9	1627003.21	4070666.2
	Ratio	100%	30%		20%	50%

Link for Sustainable Development: <http://sustainability.alexu.edu.eg/>
<https://alexu.edu.eg/index.php/en/sustainable-development>
<https://alexu.edu.eg/index.php/en/2015-11-24-10-38-07/ranking?id=6011>

Additional evidence link:

https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5911&catid=21&lang=ar-AA
https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5910

Link for Green University:

https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5932&catid=21&lang=ar-AA

[2] Energy and Climate Change (EC)

Energy Efficient Appliances Usage

Alexandria University intends to realize further energy savings by paying close attention to energy management. All the faculties and institutes of the university realize their own energy-saving potential by means of LED lighting and the deployment of sustainable technology.

Alexandria University Project on using LEDs as Energy-Efficient Bulbs (2019-2022):

Within the framework of the University's keenness to transform into a green, environmentally friendly university that works to enhance its resources and rationalize energy consumption, the Department of Community Service Development has launched a project for the total transformation of the used LED bulbs instead of the fluorescent ones. The light-emitting diode (LED) bulbs are more efficient, and energy-saving compared to fluorescent bulbs, with a relatively longer life span.

The project has been implemented in phases since 2019 based on the preparation of an inventory of the total numbers needed for all faculties and institutes of the university. The first quarter, the numbers required, which represents the types of 60 cm, 120 cm and 9 watts' bulbs, has been spent and installed, which are almost 30%. In parallel, appropriate measures were taken to dispose of the lost fluorescent lamps through one of the companies concerned with safe disposal. The second step required the purchase and transformation of 37% of the total needs of the faculties and institutes of the university. The third step required the purchase and transformation of 25% of the total needs of the faculties and institutes of the university.

During the current phase we are processing the last step of purchasing and transformation of all remaining LED bulbs (attached pdf file).

The Table below summarizes the total number of LED bulbs that are required for complete transformation into using green energy source along with the percentage of the bulbs that were already replaced over the last 4 years.



LED 60 cm

LED Lamps	Total Number required	Total number energy Efficient appliances (replaced)	Percentage
2019	39198	10142	25.9%
2020		12504	31.9
2021		12900	32.9%
2022		3652	9.3%
		Total Percentage	100%

LED 120 cm

LED Lamps	Total Number required	Total number energy Efficient appliances (replaced)	Percentage
2019	30799	9874	32.1%
2020		12500	40.6%
2021		6221	20.2%
2022		2204	7.1%
		Total Percentage	100%

LED 9 watts

LED Lamps	Total Number required	Total number energy Efficient appliances (replaced)	Percentage
2019	5190	1678	32.3%
2020		1998	38.5%
2021		1282	24.7%



2022		232	4.5%
		Total Percentage	100%

Alexandria University Program to reduce Electricity consumption from Air Conditioners and electric devices such as Computers, printers, photocopiers, surveillance cameras.

1. All newly purchased AC are inverter AC to reduce the electricity consumption (attached pdf file).
2. The new electric devices such as Computers, printers, photocopiers, surveillance cameras are energy efficient devices (attached pdf file).
3. All electronic devices must be shut down at night, when not used.
4. Passive Infrared (PIR) Sensors were implemented in some Faculties for motion-activated lighting to detect changes in heat signatures when someone or something moves within the sensor's range. These sensors will be implemented in phases in for all faculties and institutes of the university.
5. Regular Maintenance of all devices.
6. The thermostats of the air conditioner are set at 25°C, and direct sunlight is avoided by using sun protection curtains.

Solar Energy Center at the Faculty of Agriculture (Alexandria University)

Hybrid Renewable Energy Systems to Supply Services in Rural Settlements of Mediterranean Partner Countries.

The services provided by the center:

- 1) **Research and development:** Encouraging applied research on renewable energy at AU and through collaborations with other national and international universities. Development of hybrid systems in renewable energy and its uses in water pumping and water desalination and development of remote and desert areas. Development of research in energy from biomass and waste. Development of thermal uses of solar energy.
- 2) **Consultations:** Various consultations in renewable energy systems, especially hybrid systems, drying and solar heating.
- 3) **Education and Training:** Supporting the renewable energy education at AU. Developing and delivering courses, e-learning, workshops, training courses, and conferences on various renewable energy systems.
- 4) Serving the Egyptian community by providing all renewable energy information to the public.

Equipment at the center:

- 1) The center has many devices for different applications of renewable energy.
- 2) A hybrid system to generate electricity from the sun with a capacity of about 130 kilowatts.
- 3) E-learning courses on the site.

System Application	Solar System power kWp	Air Turbine power	Energy (kWh)
Wadi El-Natroon 1, Photovoltaic cells	7		7000
Wadi El-Natroon 2, Photovoltaic cells	50		50,000
Wadi El-Natroon 1, Air turbines		5	5000
Wadi El-Natroon 2, Air turbines		50	50,000
Abis Campus			130
University Main building			20
	Total Power (kWh)		112,150

Renewable Energy Sources in Campus

The Faculty of Agriculture has 2 renewable energy centers and on center at the main building of the University.

1) The renewable Energy Center in Wadi El-Natroon.

There are two units from the network:

- 7 kw hybrid unit for photovoltaic cells and 5 kw for air turbine.
- 50 kw hybrid unit for photovoltaic cells and 50 kw for air turbines (under maintenance).

They are all used in student training and research for graduate students and faculty members.

2) The renewable Energy Center at the Agriculture Research and Experiments Station in Abis Campus.

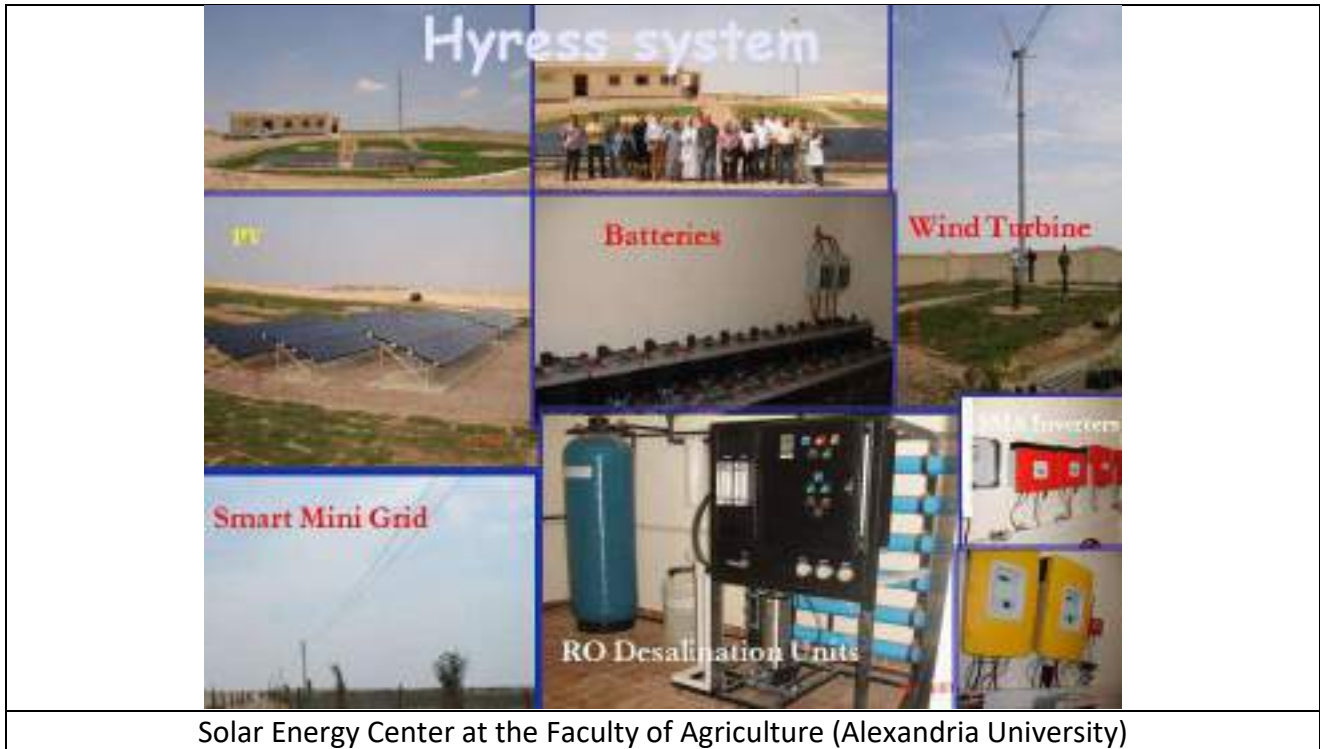
- The capacity of the center is 130 kw/h connected to the electricity grid.

3) The renewable Energy Center at the main building of the University.

- The capacity of the center is 20 kw/h connected to the electricity grid.



Solar Energy Center at the Faculty of Agriculture (Alexandria University)



Solar Energy Center at the Faculty of Agriculture (Alexandria University)

The Faculty of Science:

Research Project: Development and implementation of decentralized solar-energy-related innovative technologies for public buildings, in the Mediterranean Basin

System Application	Number of modules	Solar System kWp	Power (kWh)
BIPV façade brise-soleil	120	17.28	23270
BIPV garden pergola	90	8.1	
BIPV roof pergola	30	4.1	
Total Power (kWh)			49,620



BIPV Façade Brise-Soleil System
Solar Energy Project at the Faculty of Science (Alexandria University)

The Faculty of Science:

Research Project: Production of Bio-Diesel from Algae in Selected Mediterranean Countries: Med-Algae Project

The project objective is to explore:

- 1- The development of microalgae-based biodiesel production and other valuable products in six Mediterranean countries (Cyprus, Egypt, Greece, Italy, Lebanon and Malta).
- 2- The current level of technology, the relevant market structure, and the governmental and environmental boundaries will be mapped in the participating countries, in order to identify the most promising strategies in each country.

Studied Strains *Chlorella* sp was chosen to be the common examined strain between the partners. In addition, native algal strains from each participant country were isolated and identified.

Both *Chlorella* sp and locally isolated microalgae have been examined under lab and out-door scale.

	
<p>Production of Bio-Diesel from Algae in Selected Mediterranean Countries: Med-Algae Project (Faculty of Science, Alexandria University)</p>	<p>Algae Cultivated in Flat Panel Photo-Bioreactor, Med-Algae Project (Faculty of Science, Alexandria University)</p>

University administration building

The project of "supplying, installing and operating the photovoltaic solar plant with a capacity of 20.1 kW above the administration building of Alexandria University in Shatby was launched by the Arab Renewable Energy Company, on 2/14/2020. The capacity of the station per month is 20.1 kW, while the capacity consumed from the building is 255 kW / month, meaning that the station provides within 8% of the total monthly consumption. Total Solar energy per year = **241.2 KWh**.

Higher Institute of Public Profession

The Institute has two initiatives to exploit solar energy at the Institute through two units of photovoltaic cells (50 watts each) that are currently installed and are exploited to provide the electrical energy necessary to operate the Ultra-Filtration unit located in one of the laboratories of the Department of Materials Science for educational purpose. Moreover, five units of photovoltaic cells (260 watts each) were installed to operate the discussion room at the Institute and to provide it with sufficient energy for lighting purposes and to operate its display device. Total Solar energy per year = **360 KWh**.

The Faculty of Engineering

The implantation of the new Solar Station is completed. The implementation of the solar photovoltaic panels was performed in December 2022 with a capacity of **220** kilowatts on the 2000 m² roof top of the building of the Mechanical Engineering Department at the Faculty of Engineering.

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



Solar photovoltaic with a capacity of 220 kilowatts on the 2000 m² roof top of the building of the Mechanical Engineering Department at the Faculty of Engineering

Renewable energy production per year

No	Renewable Energy	Production (in kWh)
1	Solar panel	57,150 + 49,620 + 241.2 + 360 + 220 = 107,591.2
2	Windmill	55,000
	Total	162,591.2

Fab Lab Project (Alexandria University)

The overall goal of the project is to develop the circular and creative economy model by creating an innovation place equipped with machines Low Tech in Alexandria is hosted by Alexandria University. This place will play a role in creating local dynamism Transversal to become a crossroads between different audiences and actors from different backgrounds. To connect waste collection Plastic and its evaluation. Horizons Solidarités and the University of Corsica, in partnership with their peers in Alexandria, based on their experience in Fab Lab Corte, conduct experiments on recreating value for plastic in Alexandria. The goal is to connect all actors from assembly through training to development and dissemination.

The scope of work in the project

- **Environment, climate, and energy**
- **Education, social aspect, and research**

These goals will be implemented through the establishment of a FabLab within Alexandria University, which is a space for innovation. Derives place this innovation is energized by a generation that has innovative ideas in the fields of environment, citizenship, and culture. This revival is embodied in women and the men who are partners in the project. The high skills of Alexandria University and Senghor University, Francophone operator in Alexandria, ensures the long-term commitment of their students and the sustainability of the local dynamism. Implementation benefits from facilities Headquarters provided by Alexandria University Project Engine. VSI contributes to the unification of



links between regions. Project depends on the Alexandria Business Association (ABA), a trade organization that invests in creating startups in the circular economy and selling finished products. A multi-representative consortium from both sides of the Mediterranean could be formed from these dynamics that will support the project over time.

The French side confirmed that the Fab Lab at the University of Corsica in France has become a very successful experiment on the economic and environmental levels, and is considered one of the most important strategic projects in France and receives the attention of the French Presidency and the Mediterranean region. The French side explained that it seeks to benefit from the expertise of Alexandria University, and that they are fully prepared. To provide full support for the project and coordinate with the relevant authorities in France for the success of this experiment, which will benefit both sides on the environmental, economic and environmental levels.

Led by the South Region and its partner Alexandria Governorate, this project aims to be part of an inter-regional dynamic with the participation of the **Corsican community**. This project is part of the “Zero Plastic Waste” regional strategy in the Mediterranean. It is also part of the dynamics of the memorandum signed on September 5, 2022 between the region and IUCN Med on the occasion of the World Nature Congress in Marseille, which aims to develop joint actions for the benefit of a Mediterranean region without plastic. On the other hand, this project is part of the context of the twenty-seventh session of the Conference of the Parties held in Egypt. It joins the global effort undertaken by the Egyptian state in order to effectively combat the effects of climate change. Its realization in Alexandria makes it possible to structure a permanent cooperation with the governorate around a symbolic project that will, in the long term, enhance the social impact of research and university cooperation. In addition, this project promotes decentralized cooperation between the three regions.

Indeed, supporting this project will highlight the role of the region, Alexandria Governorate, and Corsica in supporting innovative solutions to adapt regions to changing Climate. The strategy is based on four pillars: **digital communication in three languages, the production of digital communication media intended for the general public, organizing competitions for artists and architects from the two countries to enhance the innovative role Fab Lab, and discussions of ideas supported by all partners as a regional facilitator**. In addition, a dedication ceremony for the Fab Lab will be held in the presence of elected officials, governors, university presidents, and will be followed by the symposium in Alexandria is a continuation of COP 27, which was held in November 2022.

A system for monitoring and evaluating the project will be developed by members of the steering committee with the support of specialists. The monitoring and evaluation system will include the quantitative, qualitative, and financial components of the project. It will make it possible to measure the effectiveness of this place of innovation as a driver of sustainable and inclusive development at the local and Mediterranean levels. Indicators for this monitoring and evaluation system will be identified and validated by the Steering Committee at the beginning of the project to verify throughout the implementation period whether the results are consistent expected meets set goals. Answers will need to be provided to the items specified in the reference system approved by the Steering Committee.

Smart Building Implementation:



Green building implementation through the use of sun breakers in the SSP building at the Faculty of Engineering

No.	Name	Place	automation		safety				energy		water		Indoor environment				lighting				Building Area (m ²)
			B1	B2	S1	S2	S3	S4	E1	E2	A1	A2	I1	I2	I3	I4	L1	L2	L3	L4	
1	University Alexandria; Abis Campus, Buildings 1-11	Alexandria, Egypt			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	667,730.988
2	University administration building	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	1940
3	Faculty of Physical Education for Boys	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	113311.93
4	Faculty of Physical Education for Girls	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	2891
5	The medical complex	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	91216
6	Faculty of Science in Horia Street	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	22197
7	Faculty of Science in Moharram Bek	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	5485
8	Faculty of Engineering	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	111034
9	Campus of Humanities and Social Sciences	Alexandria, Egypt	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X	80707



10	Faculty of fine Arts	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	2569
11	Faculty of Specific Education	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	1194
12	Faculty of Early Childhood Education	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	1407
13	Medical Research Institute (Horia Street - Smouha)	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	2500
14	Higher Institute of Public Profession	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	700
15	University land in Smouha (College of Nursing - Children's Hospital - Faculty members residences)	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	105218.22
16	Land of Mouwasat Hospital	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	20234.27
17	Institute of Graduate Studies and Research	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	2764
18	Faculty of Agriculture Saba Pasha	Alexandria, Egypt	X	X	X	X	X	X	X	X	X	X	X	X	144200.934
Total															1,377,300.34

————— Please compile one row for each building (or homogeneous part of it) by ticking with a "X" for each requirement —————

Applying green building concepts in the Faculty of Engineering - Alexandria University in 2020.

The buildings of the Faculty of Engineering - Alexandria University were chosen to be the nucleus from which to implement green building concepts regarding the general vision for applying environmentally friendly green building requirements to the Faculty of Engineering buildings (Report is attached).

In the report, the faculty buildings were studied, and the summary of the report was as follows:

1. Mechanical Engineering Building: Complies with green building requirements (LEED) with the silver category.
2. Preparatory building: conforms to green building requirements (LEED) with the silver category.
3. Administration building: It does not currently comply with green building requirements (LEED), but it is possible with simple modifications to adopt it.
4. Electrical Engineering Building: It does not currently comply with green building requirements (LEED), but it is possible to adopt it with simple modifications.

After evaluating the Faculty of Engineering buildings, the elements of Green Building Implementation was considered in all building's maintenance activity and in the construction of new buildings.

Elements of Green Building Implementation as Reflected in all new construction and renovation policies:

- The area of the project is 160 acres (667,730.988 m²), 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% atreets 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.
- As for energy, all the buildings have solar energy generation cells to provide part of the building’s needs, which are estimated at about 45%, in addition to using energy-saving lamps (LED).
- The public site lighting poles are powered by solar energy.

Total Building Area

$$\frac{\text{total building area}}{\text{total area}} \times 100\%$$

Total Building Area:

$$\frac{2,385,538.83 \text{ m}^2}{8,083,208.27 \text{ m}^2} \times 100\% = 30\%$$

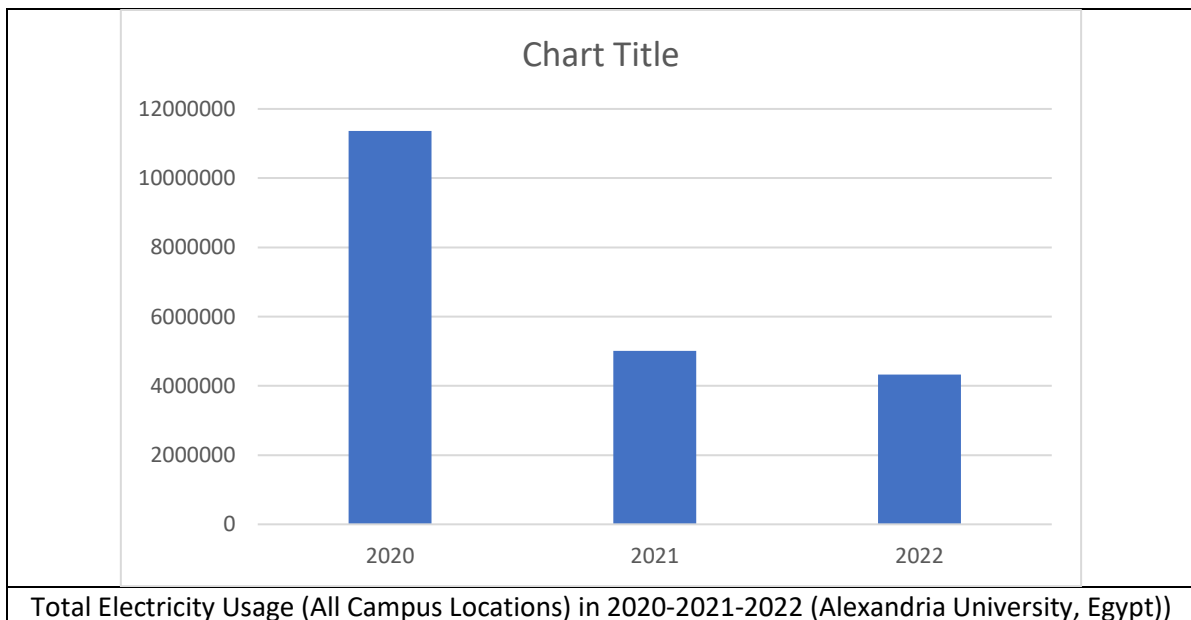
Smart building implementation

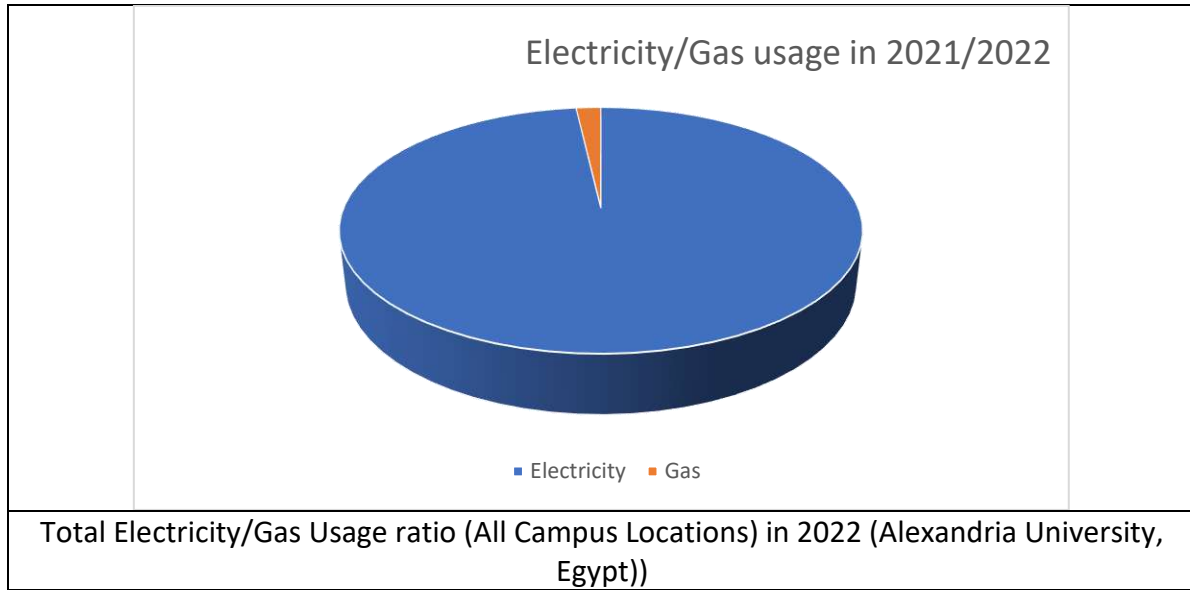
$$\frac{\text{total smart building area}}{\text{total building area}} \times 100\%$$

Smart building implementation

$$\frac{1,377,300.34 \text{ m}^2}{2,385,538.83 \text{ m}^2} \times 100\% = 57.7\%$$

Electricity Usage per Year (in Kilowatt hour)





The total electricity usage of Alexandria University Campus in 2022 is 4,329,779.781 kWh. The total electricity usage decreased by 15.64 % compared to year 2021. The total Gas usage of Alexandria University Campus in 2022 is 13471 m³ (153,066 kWh). On the main campus area of Alexandria University electricity is used for lighting, cooling, heating and laboratory appliances.

Applying green building concepts in the Faculty of Engineering - Alexandria University in 2020.

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After evaluating the Faculty of Engineering buildings, the elements of Green Building Implementation was considered in all building's maintenance activity.

Elements of Green Building Implementation as Reflected in all new construction and renovation policies:

The new and renovated University buildings)

Alexandria University set up a construction policy for the renovation and maintenance of the Facilities and building new building. This policy includes the following elements: Smart Buildings, Renewable energy usage, Natural ventilation, full natural daylighting, LED lighting, passive Infrared Sensors.

- The area of the new Campus is 160 acres (667,730.988 m²), 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.
- All new buildings in Abis campus are designed with large windows to get maximum benefit from daylight and natural ventilation. In addition, all University buildings have good natural ventilation and daylight.



- Passive Infrared (PIR) Sensors were implemented in some Faculties for motion-activated lighting to detect changes in heat signatures when someone or something moves within the sensor's range. These sensors will be implemented in phases in for all faculties and institutes of the university.
- 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.
- As for energy, all the buildings have solar energy generation cells to provide part of the building's needs, which are estimated at about 45%, in addition to using energy-saving lamps (LED).
- The public site lighting poles are powered by solar energy.

The Faculty of Science:

Research Project: Development and implementation of decentralised solar-energy-related innovative technologies for public buildings, in the Mediterranean Basin

System Application	Number of modules	Solar System kWp	Power (kWh)
BIPV façade brise-soleil	120	17.28	26350
BIPV garden pergola	90	8.1	23270
BIPV roof pergola	30	4.1	
	Total Power (kWh)		49,620

Environmental Benefits

Life time CO ₂ emission savings	556,935 kg
Life time SO ₂ emission savings	2,004 kg
Life time NO _x emission savings	668.322 kg

University administration building

The project of "supplying, installing and operating the photovoltaic solar plant with a capacity of 20.1 kW above the administration building of Alexandria University in Shatby was launched by the Arab Renewable Energy Company, on 2/14/2020. The capacity of the station per month is 20.1 kW, while the capacity consumed from the building is 255 kW / month, meaning that the station provides within 8% of the total monthly consumption. Total Solar energy per year = **241.2 KWh**.

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The Institute has two initiatives to exploit solar energy at the Institute through two units of photovoltaic cells (50 watts each) that are currently installed and are exploited to provide the electrical energy necessary to operate the Ultra-Filtration unit located in one of the laboratories of the Department of Materials Science for educational purpose. Moreover, five units of photovoltaic cells (260 watts each) were installed to operate the discussion room at the Institute and to provide it with sufficient energy for lighting purposes and to operate its display device. Total Solar energy per year = **360 KWh**.

The Faculty of Engineering

The implantation of the new Solar Station is completed. The implementation of the solar photovoltaic panels was performed in December 2022 with a capacity of **220 kilowatts** on the 2000 m² roof top of the building of the Mechanical Engineering Department at the Faculty of Engineering.



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

Ratio of renewable energy production divided by total energy usage per year

No	Renewable Energy	Production (in kWh)
1	Solar panel	57,150 + 49,620 + 241.2 + 360 + 220 = 107,591.2
2	Windmill	55,000
	Total	162,591.2

162,371.2 / 4329779.781 (Electricity usage) = 3.75%

Greenhouse gas emission reduction program

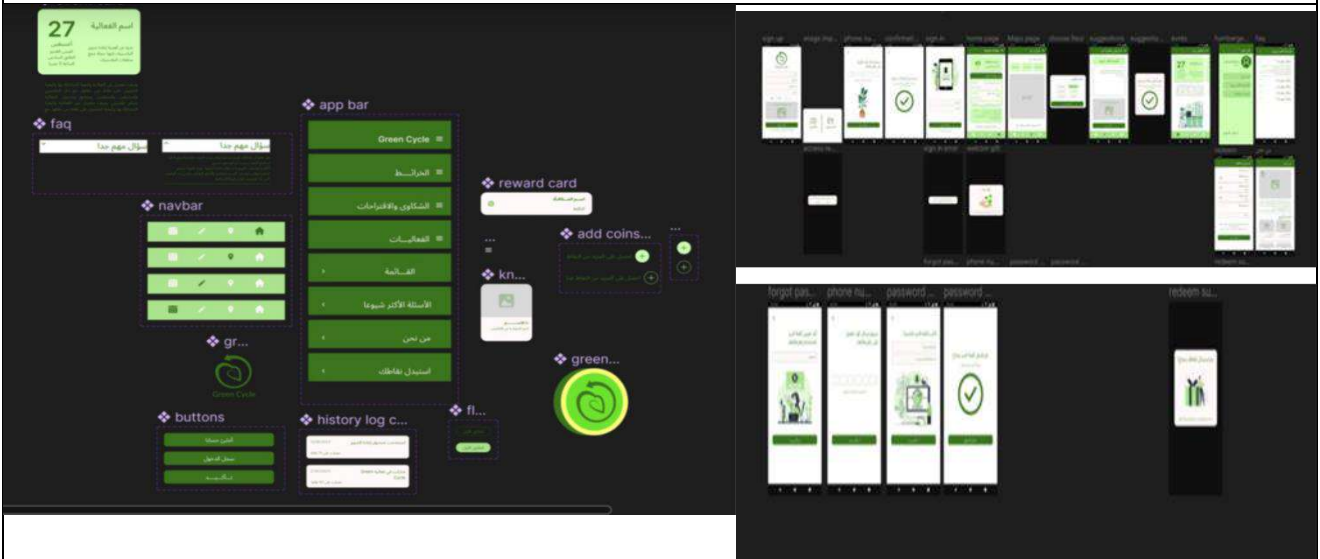
	
<p>1. LED lighting and lamps (Abis Campus, Alexandria University)</p>	<p>2. Renewable energy (Solar Energy Center at the Faculty of Agriculture, Alexandria University)</p>



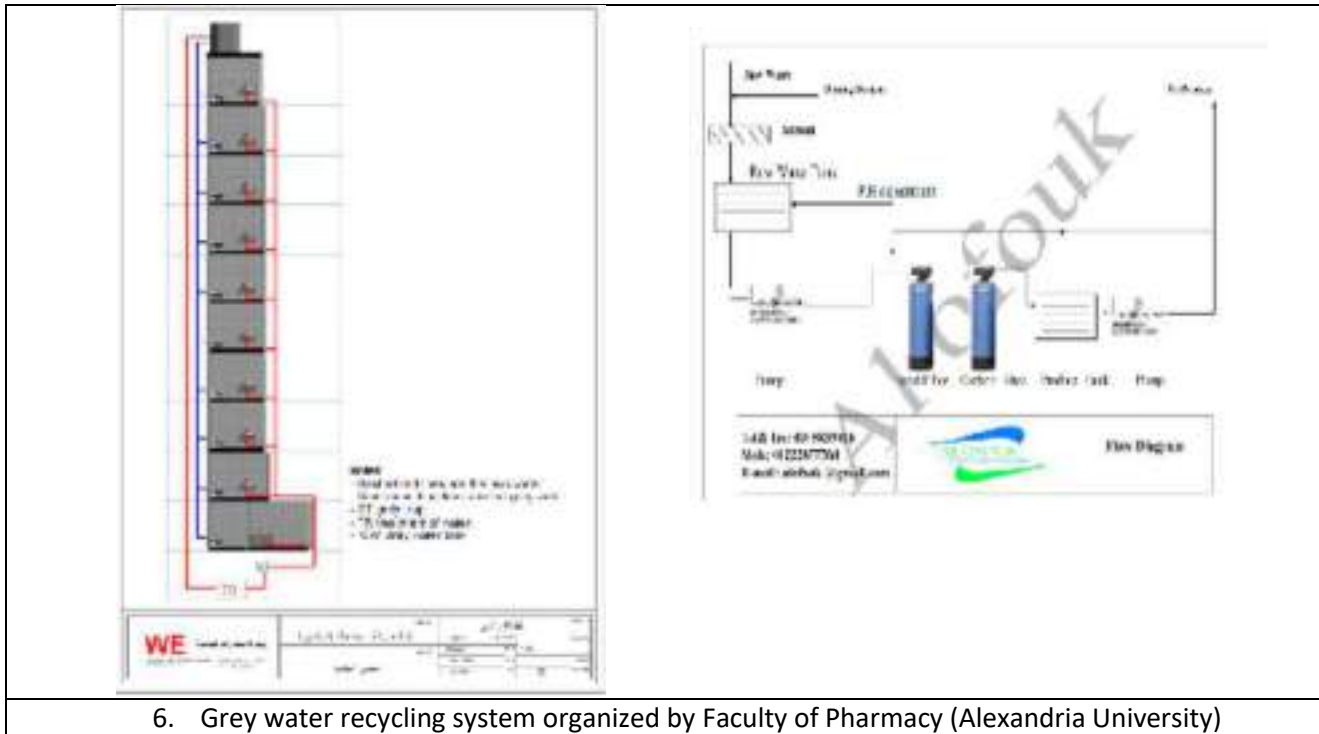
3. Ride Share using the University Shuttle (Alexandria University)



4. Solar Energy Center at the Faculty of Science (Alexandria University)



5. An application, prepared for smart phones, specific to Green Cycle project enables college members to share cars (car pooling) for transportation (Alexandria University)



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

Table: Greenhouse gas emission sources at Alexandria University Campus

	Emission data	Definition
Scope 1	Stationary combustion	Stationary combustion refers to the burning of fuels to produce electricity, steam, and heat in a fixed location, such as boilers, burners, heaters, kilns, and engines.
	Mobile combustion	Burning of fuels by institution-owned transportation devices
	Process emissions	Direct greenhouse gas (GHG) emissions from physical or chemical processes rather than from fuel combustion
	Fugitive emissions	Hydrofluorocarbon releases during the use of refrigeration and air conditioning equipment and methane leakage from natural gas transport
Scope 2	Purchased electricity	Indirect GHG emissions result from the generation of the electricity purchased and used by the institution
Scope 3	Waste	Indirect GHG emissions resulting from the incineration or landfill of your institution's solid waste
	Purchased water	Indirect GHG emissions resulting from the generation of water supply purchased and used by the institution
	Commuting	Indirect GHG emissions resulting from regular commuting from and to institutions by students and employees (i.e., reducing regular commuting by using shared vehicles, carpooling)
	Air travel	Indirect GHG emissions resulting from air travels paid by institutions (i.e., reducing the number of staff air travel opportunities)



Elements of Green Building Implementation as Reflected in all new construction and renovation policies:

Scope 1, Stationary combustion and Mobile combustion: These GHG sources are reduced by Ride Share using the University Shuttle and Carpool, by the decrease of burning of fuels. In addition, the use of bicycles reduces the GHG source. Reducing the individual carbon footprint of students, faculty members and college employees by developing an application, prepared for smart phones. The Green Cycle project was organized by Faculty of Pharmacy- Alexandria University that enables faculty members to share cars for transportation in a safe manner in order to reduce carbon emissions resulting from car exhausts. Is project is a succesful project which was performed as a prototype at the Faculty of Pharmacy. Alexandria University's plan is to establish the Green Cycle project in all Faculties.

Scope 1, Fugitive emissions: All new buildings in Abis campus are designed with large windows to get maximum benefit from daylight and natural ventilation. In addition, all University buildings have good natural ventilation and daylight. This will reduce the use air conditioning equipment and accordingly decrease GHG.

Scope 2, Purchased electricity: As for energy, all the new buildings in Abis Campus have solar enery generation cells to provide part of the building's needs, which are estimated at about 45%, in addition to using energy-saving lamps (LED). In addition, the public site lighting poles are powered by solar enery.

All the faculties and institutes of the university realize their own energy-saving potential by means of LED lighting and the deployment of sustainable technology. Alexandria University have generalized this initiative in some of the faculties of Alexandria University in gradual stages.

Alexandria University Program to reduce Electricity consumption from Air Conditioners and electric devices such as Computers, printers, lab apparatus.

1. All newly purchased AC are inverter AC to reduce the electricity consumption.
2. The new electric devices such as Computers, printers, lab apparatus are energy efficient devices.
3. All electronic devises must be shut down at night, when not used.
4. Regular Maintenance of all devices.
5. The thermostats of the air conditioner are set at 25°C, and direct sunlight is avoided by using sun protection curtains

Scope 3, Waste: Implementing environmental awareness programs at the beginning of study on policies that can be followed to reduce waste production on campus, and to reduce the consumption of paper, plastic, and metals on college campuses.

Alexandria university program to reduce the use of paper and plastic in campus.

- 1) Development of electronic archiving system; the university faculties and the main campus are moving toward the electronic archiving system to reduce paper consumption.
- 2) University decree to reduce the use of paper in the campus:
 - 2.1: The president decree to use the e-mails for communications inside the campus and between the university main campus and all the other campuses.
 - 2.2: In the situations, the university or any of its faculties need to print the official documents; this has to be on recycled paper (2 faces copy).
 - 2.3: The University formulated a community for administrative reform to minimize the administrative processes and decrease the use of papers except in who are relevant to financial process.
- 3) Digital transformation toward electronic exams to reduce paper consumption.
- 4) Digital transformation toward electronic course to reduce paper consumption and books printing.
- 5) Electronic administration of student courses by about 50% instead of written administration to reduce paper consumption.

Scope 3, purchased water: The University has applied a strategy in the faculties to decrease water consumption through installation of special parts on water taps, showers, toilette, and bathroom bidet which can conserve



about 50% of water consumption. Water saving devices are used instead of traditional devices. For example, the use of a hand-washing faucet with automatic control via a sensor, and high-efficiency bathroom devices. Supplying water taps with water conservation units. Adopting a mechanism to maintain water pipes to prevent waste resulting from leaks.

In addition, a policy for the reduction of purchased water was implemented in Abis Campus 1) 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. 2) Rainwater is collected in the main lake and used for irrigation. 3) 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.

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

Scope 3, Commuting: These GHG sources are reduced by Ride Share using the University Shuttle and Carpool, by the decrease of burning of fuels. In addition, the use of bicycles reduces the GHG source. An application was developed for smart phones, by the students at the Faculty of Pharmacy- Alexandria University that enables faculty members to share cars for transportation in a safe manner (Green Cycle project).

Scope 3, Air travel: The University usually support the travel of Faculty members and student once every two years for attending conferences. Lately, since the covid 19 pandemic, and the increase in air travel Tickets, the support of travel was stopped.

Alexandria University's Carbon Footprint (2022/2023)

During the very few past years, the climate change and the global warming facing the entire universe have gained much more attention due to their direct effects on the human life on earth. As a result, countries, organizations, and people have noticed that it is now the time to face these challenges and as an initial step, we must first determine or calculate the amount of pollution that we cause to our planet, then we shall work on ourselves to minimize this pollution. One of the most famous methods to monitor the climate change is to determine what is known by Carbon Footprint.

The term "Carbon Footprint" is usually used as shorthand for the amount of emitted carbon (in tons) by an organization or country. This footprint is also an important component of the Ecological Footprint, since it is one competing demand for biologically productive space. Carbon emissions from burning fossil fuel usually accumulate in the atmosphere if there is not enough biocapacity dedicated to absorb these emissions. Therefore, when the carbon footprint is reported within the context of the total Ecological Footprint, the tons of carbon dioxide emissions are expressed as the amount of productive land area required to sequester those CO₂ emissions, which tells us how much biocapacity is necessary to neutralize these emissions.

Measuring Carbon Footprint in a certain area just shows us how much biocapacity is needed to take care of our untreated carbon waste and to prevent carbon accumulation in the atmosphere, which as a consequent can enable us to address the climate change challenge in a clearer way. In fact, the climate problem emerges because the planet does not have enough biocapacity to neutralize all these emissions. Humanity's carbon Footprint has increased 11-fold since 1961. Reducing humanity's carbon Footprint is the most essential step we can take to end overshoot and live within the means of our planet.

The climate pact approved in Paris in December 2015 represented an important step in re-imagining a fossil-free future for our planet. Nearly 200 countries around the world, including Egypt, agreed to keep global temperature rise well below 2°C. According to the known data from (Intergovernmental Panel on Climate Change) IPCC's 2014 report that a concentration of greenhouse gases in the atmosphere of 450 ppm CO₂ equivalent gives us a 66% chance to comply with the Paris Agreement's (2°C) goal. In contrast, the National Oceanic and Atmospheric Administration of the United States Department of Commerce (or NOAA) reports that in 2020 we were already at 504 ppm CO₂ equivalent. This confirms that the problem is increasing and there is a critical demand to rapidly solve it. Although Egypt contributes with a small portion in the global emissions of greenhouse gases, but this small portion is growing with time. In addition, Egypt is also expected to suffer from



shortage of water, decrease in agricultural crops, rising sea levels due to increase in temperature and change in rainfall patterns.

In the light of the above mentioned information and according to the "Sustainable Development Strategy: Egypt's Vision 2030", Alexandria University, as a very important educational institution, has taken the first steps to work on reducing carbon emissions as one of the most important sources of greenhouse gases and has implemented a plan to monitor and calculate the "Carbon Footprint since the academic year 2018 / 2019" for all its faculties, institutes and its administrative buildings in order to aid in decision-making.

When calculating the Carbon Footprint for all Alexandria University buildings for the Academic year (2022/2023), the approximate amount of emitted CO₂ was **4,491.62033 CO₂e**.

The total carbon footprint of the Faculties and Institutes of Alexandria University (Ton CO₂e)

Faculty/Institute	2020/2021	2021/2022	2022/2023
University Administration Building	NA	186.330	257.8696
Faculty of Arts	235.887	179.299	126.5596
Faculty of Commerce	412.128	29.3102	134.991
Faculty of Education	21.807	9.264	28.61872
Faculty of Medicine	1817.232	433.984	528.7561
Faculty of Dentistry	705.702	29.379	301.0882
Faculty of Engineering	693.748	675.702	530.7443
Faculty of Agriculture	1326.267	1066.346	743.709
Faculty of Pharmacy	318.059	306.118	273.1078
Faculty of Science	317.362	218.947	222.71091
Faculty of Nursing	122.79	161.580	140.3059
Faculty of Veterinary Medicine	186.221	172.431	144.0973
Higher Institute of Public Health	12.646	59.204	51.1156
Medical Research Institute	555.478	186.894	144.438
Institute of Graduate Studies and Research	10.92	7.246	16.0455
Faculty of Physical Education for girls	277.671	380.872	306.9452
Faculty of Physical Education for boys	214.835	319.100	235.999
Faculty of Specific Education	12.069	3.613	11.8411
Saba Pasha Faculty of Agriculture	92.785	109.632	98.6493
Faculty of Education for Early Childhood	33.4747	4.745	19.0013
Faculty of Fine Arts	22.654	19.541	20.6138
Faculty of Tourism and Hotels	9.924	4.525	6.5065
Faculty of Law	141.668	151.137	147.9066
Total	7,541.33 CO₂e	4,715.1992 CO₂e	4,491.62033 CO₂e

This report came out as a result of the concerted efforts of the academic community of Alexandria University during the academic year 2022/2023 in collecting, analyzing and editing this report in accordance with international standards and controls for carbon footprint calculations.

In order to allocate the specific position of Alexandria University regarding the extent of its contribution to carbon emissions among similar institutions, it was necessary to compare these emissions with other universities around the world.



University	Last Carbon Footprint Report	Carbon Footprint Total value (metric tons)
American University in Cairo (AUC)	2019/2020	34,391.3 CO _{2e}
Cape Town University (Republic of South Africa)	2018	75,187 CO _{2e}
Arizona University (USA)	2017	258,088 CO _{2e}
Alexandria University (Egypt)	2022/2023	4,491.62033 CO _{2e}

Conclusion:

According to the Carbon Footprint for all Alexandria University buildings for the Academic year (2022/2023), which is approximately 4,491.62033 CO_{2e}, one can conclude that the sustainability program of Alexandria University was successful. The total electricity usage of Alexandria University Campus in 2022/2023 is 4329779.781 kWh. The total electricity usage decreased by 15.64 % compared to year 2021/2022. On the other hand, a significant increase in the consumption of paper packages is observed. The paper packages used in all Alexandria University buildings for the Academic year (2020/2021) was 84689 paper packages. While in the year (2021/2022) it was reduced to 47911 packages. In the academic year (2022/2023), the consumed paper packages slightly increased to reach 55712 packages.

Number of innovative program(s) in energy and climate change & Impactful university program(s) on climate change

- 1- The Faculty of Agriculture has 2 renewable energy centers and one center at the main building of the University. (Previously presented)
- 2- Solar Energy Center at the Faculty of Agriculture (Alexandria University): (Previously presented)
- 3- The Faculty of Science: (Previously presented)



Research Project: Development and implementation of decentralised solar-energy-related innovative technologies for public buildings, in the Mediterranean Basin

4- The Faculty of Science: (Previously presented)

Research Project: Production of Bio-Diesel from Algae in Selected Mediterranean Countries: Med-Algae Project

5- Smart Environmental Management of Climate Change in collaboration with Catania University, Italy

2 year Postgraduate Master program (4 semesters).

AdapTm-Erasmus project: The participating countries and Universities: Italy, Greece, Lithuania, Slovenia, Egypt (Alexandria University, Suez Canal University, South Valley University, Arab Academy for Science and Technology and Maritime Transport).

Program start date: year 2019


Link: <https://emuni.si> › ADAPTM-handout_2_Mod



Smart Environmental Management of Climate Change Master Program (Alexandria University, Egypt)



Sustainable Management of Fisheries and Aquaculture Science Master Program (Alexandria University, Egypt)

7	 <p>M.Sc. in: Natural Resources Sustainability for Land Development (NRSLD) <i>Under the framework of SureMap project</i> (Sustainable Resource Management Programme to solve Deserted Challenges)</p> <p>SureMap Project: Aims to establish interdisciplinary programs that train students to address water, energy & food-related challenges in "Egypt's 2030 strategy".</p> <p>NRSLD is an outcome of the SureMap Erasmus project that includes a consortium of 4 Egyptian and European universities. The program is cooperatively designed by the consortium, therefore, it has the advantage of the international and interdisciplinary perspective, European framework of recognition, and benefits from a wide network of participating professors from the following universities: RWTH Aachen, Heliopolis University, Alexandria University, CITY College – Sheffield University, The American University in Cairo, University of Palermo, Aswan University, and Technical University of Madrid.</p> <p>Program Vision: NRSLD program aims to prepare students with the knowledge and experience for the management and sustainable development of Egypt's natural resources in the local, regional, and international related sectors.</p>  <p>Program Mission: The Faculty of Science through NRSLD program, seeks to qualify the graduates to be competitive at local, regional, and international levels, by creating an appropriate educational environment and fostering efficiency, scientifically, and professionally sound approaches that enable graduates to serve the community and the institutions closely related to sustainable development plans.</p> 
	Natural Resources Sustainability for Land Development Master Program (Alexandria University, Egypt)

6- Sustainable Management of Fisheries and Aquaculture Science, in collaboration with University of Aveiro, Portugal.

2 year Postgraduate Master program (4 semesters).

(Erasmus+ Project, European Union): The participating countries and Universities: Portugal (University of Aveiro), Italy, Croatia, Slovenia, Egypt (Alexandria University, Aswan University, Matrouh University, Arab Academy for Science and Technology and Maritime Transport).

Program start date: year 2021

Link: <http://fishaqu.eu>

7- Natural Resources Sustainability for Land Development in collaboration with Aachen University, Germany

2 year Postgraduate Master program (4 semesters).

Erasmus+ Project, European Union: The participating countries and Universities: Germany (RWTH Aachen), Egypt (Alexandria University, Heliopolis University, the American University in Cairo, Aswan University), Cyprus (CITY College – Sheffield University), Italy (University of Palermo), Spain (Technical University of Madrid).

Program start date: year 2022



Link:

YouTube: <https://suremap.eu>

facebook: <https://www.facebook.com/suremapproject>

LinkedIn: <https://www.linkedin.com/company/suremap-project>

8- Climate Change and Sustainable Development Master Program

2 year National Postgraduate Master program (4 semesters) at the Higher Institute of Public Profession.

- The climate change and sustainable development master degree prepares graduates to target jobs in the various emerging career paths in environmental economics and climate change including:
 - Governmental agencies and municipalities which develop plans for climate change mitigation and adaptation.
 - Consultancy companies carrying out Environmental Impact Assessment, developing, implementing or monitoring climate change mitigation and adaptation projects.
 - Climate change research, teaching and information dissemination.

NGOs and stakeholder organizations involved in climate change impacts assessment and sustainable development.

9- Applying green building concepts in the Faculty of Engineering - Alexandria University in 2020.

The buildings of the Faculty of Engineering - Alexandria University were chosen to be the nucleus from which to implement green building concepts regarding the general vision for applying environmentally friendly green building requirements to the Faculty of Engineering buildings (Report is attached).

In the report, the faculty buildings were studied, and the summary of the report was as follows:

1. Mechanical Engineering Building: Complies with green building requirements (LEED) with the silver category.
2. Preparatory building: conforms to green building requirements (LEED) with the silver category.
3. Administration building: It does not currently comply with green building requirements (LEED), but it is possible with simple modifications to adopt it.
4. Electrical Engineering Building: It does not currently comply with green building requirements (LEED), but it is possible to adopt it with simple modifications.

10- Fab Lab Project in the Faculty of Engineering - Alexandria University

The overall goal of the project is to develop the circular and creative economy model by creating an innovation place equipped with machines Low Tech in Alexandria is hosted by Alexandria University. This place will play a role in creating local dynamism Transversal to become a crossroads between different audiences and actors from different backgrounds. To connect waste collection Plastic and its evaluation. Horizons Solidarités and the University of Corsica, in partnership with their peers in Alexandria, based on their experience in Fab Lab Corte, conduct experiments on recreating value for plastic in Alexandria. The goal is to connect all actors from assembly through training to development and dissemination (Discussed in detail in page 23, 24).

The scope of work in the project

- **Environment, climate, and energy**
- **Education, social aspect, and research**

11- Green Cycle project in the Faculty of Pharmacy - Alexandria University

Within the framework of the Faculty of Pharmacy's tireless endeavour to meet the needs of the community inside and outside the university and to contribute to solving contemporary health, social and economic problems, in line with the vision of Alexandria University, which is based on the principles of comprehensive quality and continuous and sustainable development, in harmony with the state's development plan "Sustainable Development Strategy: Egypt Vision 2030":

The college is advancing the "Green Circle" project, which is a non-profit project that seeks to keep the environment clean and green in a sustainable way by growing plants to increase green spaces, as well as

separating waste for recycling and establishing charitable markets to benefit from used clothes and use electricity-saving alternatives such as energy saving lamps.



Car pooling application for smartphones - Green Cycle project in the Faculty of Pharmacy (Alexandria University, Egypt)

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 in the next stage 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.

Project goals:

1. Spreading awareness of the need to maintain the cleanliness of the Faculty of Pharmacy campus.
2. Spreading green spaces and landscaping on the campus of the Faculty of Pharmacy.
3. Reuse of wastewater from septic tanks only by pumping it back into the flushing bins of the toilets after primary treatment.
4. Taking advantage of rainwater for use in irrigation and regulatory operations.
5. Reducing the individual carbon footprint of students, faculty members and college employees by developing an application, prepared for smart phones, specific to the project that enables college members to share cars for transportation in a safe manner in order to reduce carbon emissions resulting from car exhausts.



6. Waste recycling, the most important of which is paper collection, as it has one of the highest recycling rates more than any other waste at the University.

The Green Circle Project is an integrated system that has many positive and direct impacts on the environment at the Faculty of Pharmacy, and provides a model that can be emulated in the colleges and institutes of Alexandria University, as providing a clean, sustainable environment has good effects on the mental and physical health of students, faculty members, and college workers, which makes them feel its value. They like to be there and keep it clean. Therefore, this project will lead to indirect results on the productivity of college employees, as well as transferring them to a culture of sustainability in preserving the environment outside the college walls.

The grey water recycling initiative has a significant impact on rationalizing water use and thus saving the college's monthly water bills, which constitute a burden on the budget.

Introducing the concept of car sharing among university students will reduce the costs of going to college.

Also, the presence of students and workers in a clean environment will improve overall performance.

What has been implemented of the project so far

- The trees around the college campus were trimmed, cut, sprayed, and maintained, and the plants spread at the college entrance were taken care of.
- Attention was paid to recycling wood waste from exam tables and chairs and converting them inside the college workshops with carpenters from the college into boxes for flowers and plants.
- A partnership contract was signed with some parties to dispose of hazardous waste.
- Awareness seminars were held for college members about the importance of preserving the environment and educating young people about climate change.
- 23 waste collection points have been distributed for recycling.
- 75 seedlings of ornamental plants were planted to create an aesthetic appearance and work to increase the green area. These plants are being cared for and increased in number.
- A running and walking marathon was held to encourage reduced use of strollers.
- Many charity markets have been set up to recycle clothes.
- The faculty lighting has been changed to use energy saving lamps.
- A complete design for grey water recycling has been developed and is awaiting university approvals.
- A team of faculty students developed an application, prepared for smartphones, to serve the project ideas and encourage active participation in it. The first phase has been completed and will be launched simultaneously with the study.
- A preliminary concept for rooftop farming has been developed.
- Planning to plant the faculty wall has been completed and is awaiting university approvals.

Future plan of the project:

- Increasing the rates of afforestation within the college and increasing the green area in the college through two main axes:
- Cultivation of the college's surfaces.
- Constructing a wall parallel to the college wall, 55 meters long and 40 centimetres deep. This wall contains 40 fruit trees, including lemon, olive, and orange trees. This phase will begin in September 2023.
- Launching the application for smartphones.
- Implementing environmental awareness programs at the beginning of study on policies that can be followed to reduce waste production on campus, and to reduce the consumption of paper, plastic, and metals on college campuses.
- Preparing an integrated file about the initiative in the universities and schools and communicating with the Governor of Alexandria to activate the idea. In various government facilities in Alexandria, which brings financial and environmental benefits to the bride of the Mediterranean.
- Generalizing the initiative to the rest of the governorates of the Arab Republic of Egypt, ensuring a cleaner environment and a less polluted and brighter future for future generations.

Green circle supplement:

Medicinal plant extraction unit (Environmentally friendly unit):

The medicinal plant extraction unit is a model unit for preserving the environment and its resources greatly because it contains devices that help reduce the use of organic solvents that are harmful to the environment and reduce water waste in general.



[3] Waste (WS)

3R (Reduce, Reuse and Recycle) Program for University Waste

Alexandria University developed the initiative of "separating and recycling waste", which aims to protect the environment, maintain the cleanliness of colleges and develop environmental awareness within the framework of the concepts of green economy and sustainable development to achieve the vision of Egypt 2030.

Alexandria University Program for Waste Recycling

- 1- The University applied a strategy in all its faculties to segregate the waste into special containers for plastic, papers, glass, and metal objects.
- 2- The University set an initiative for waste recycling in all faculties with a set of labeled containers for waste segregation distributes in each faculty.
- 3- The University set initiative for increasing the awareness about Purchase Recycled Products: It is important to buy products made from recycled materials to strengthen the market for recyclables.
- 4- The University developed an initiative with the governorate (Alexandria Youth alliance) to participate with us in waste management initiative.
- 5- The University has a contract with Nahdet-Misr Company (the official company in the governorate for waste disposal) for collection and recycling.
- 6- The University is trying to develop an initiative as a student project with Titan® Company for manufacturing of MDF sectors using university collected waste for maximal benefit from this waste.
- 7- University students at the Faculty of Science initiated a student project for plastic recycling.

Our *recycling program* aims to recycle waste by separating it from the source into:

- Organic waste and food residues.
- Plastic waste and plastic bags .
- Mineral waste and carbonated water cans.
- Paper waste
- Electronic waste
- Toxic waste

This allows the recycling and utilization of as much of the waste as possible instead of disposing of it in landfills, which will eventually lead to its burning and the consequent pollution of the environment and the

increase in emissions of greenhouse gases. Our university promotes maintaining the campus environment in clean condition using high quality non-toxic detergents and cleaning materials.



Recycling Program for University Waste (Alexandria University, Egypt)



Program for separation of Paper (blue), Plastic (yellow), aluminum cans and glass (green) and organic waste (red) in Campus (Alexandria University, Egypt)



Recycling of plastic waste at the Faculty of Science (Alexandria University, Egypt)

Alexandria University Program for Treatment of Organic Waste

- Separation of Paper in blue containers, Plastic in yellow containers, aluminum cans and glass in green containers and organic waste in red containers in Campus (Alexandria University, Egypt).
- The separated organic waste is mainly food waste, manure, green waste arises from landscaping consists of leaves green plants garden trimmings and others, biodegradable plastic and non hazardous wood waste.
- The Faculty of Agriculture recycles 100% of its organic waste through the following procedure:
 - Utilization of the treated agricultural byproducts in farm animals feeding.
 - Utilization of the treated agricultural byproducts for the vermi-compost to produce organic fertilizers.
 - Utilization of the treated agricultural byproducts through a special insect (black soldier) to produce organic fertilizers and protein sources.
 - Mass production of active Biochar from agricultural waste to remove any water impurities or pesticides residues.
- 1- The organic waste in Alexandria University is handled according to the contract with Nahdet Misr company. All organic waste is collected in organic waste containers. Then the company collects these waste bags and deliver it to a waste treatment facility for processing.
- 2- In addition, the University students at the Faculty of Science initiated a student project for organic waste recycling. Leaves and organic waste were treated for the vermi-compost to produce organic fertilizers to use in the Campus gardens (Alexandria University).
- Approximately in year 2022, **229 tons of waste per year** were collected at the level of university buildings with Nahdet Misr company and separated into organic waste and inorganic waste. **Organic waste constitutes about 55% of the total waste** collected from the campus where 100% were recycled to produce organic compost.

- Managing organic waste involves a range of activities aimed at reducing its negative environmental impact while extracting its potential value to turn organic waste into nutrient-rich soil. The process involves piling up organic waste and allowing it to decompose under controlled conditions. The preparation process takes place in 45 to 60 days through stirring, purification, evaporation and filtration to obtain 58 tons (25%) organic fertilizer.
- The types of fertilizers are produced after treatment of the organic waste by Nahdet Misr company:
 - 14 mm fine organic fertilizers for vegetables.
 - 25 mm organic fertilizers are used as tree fertilizer.
 - 40 mm organic fertilizers are used as fertilizer for new cultivated areas.
 - All previous types are suitable for desert lands.

Total volume organic waste produced

Type of waste	amuount (ton) per Year (2022)		
	total	reduced	reused
organic	229 tons	22 tons	58 tons organic fertilizers 8 tons animals feeding and biochar



Leaves and organic waste were treated for the vermi-compost to produce organic fertilizers to use in the Campus gardens (Alexandria University).



The Faculty of Agriculture recycles 100% of its organic waste (Alexandria University).



Waste reception hall in Nahdet Misr company for waste collection in Alexandria



Manual sorting hall in Nahdet Misr company for waste collection in Alexandria



Organic matter separation unit in Nahdet Misr company for wastes collection in Alexandria

The University Strategy for Treatment of Inorganic Waste

- 1- In general, the inorganic waste in the University is divided into two types including:
 - **Non-medical waste:**

Products which are collected and stored in a far place in the faculties which are then removed to a general dump for recycling, examples: papers, plastics, aluminium and glasses.

Heavy metal: Heavy metal waste consists of both materials and equipment with metals and derivatives, examples: Batteries, amalgam, broken mercury thermometers.
 - **Medical waste:**

Medical waste consists of several different subcategories that should all be dealt with in the same way:

Potential infectious waste includes all waste items that are contaminated with or suspected of being contaminated with body fluids.



Examples include: Blood and blood products, used catheters and gloves.

2. Approximately **187 tons of waste per year** were collected at the level of university buildings with Nahdet Misr company and separated into organic waste and inorganic waste. **Inorganic waste constitutes about 45% of the total waste** collected from the campus where 70% were recycled while the rest 30% were transported to Alexandria Governorate Hazardous Waste Management (NASERIA) for their disposal.
3. Inorganic Wastes are collected in separate containers labelled for inorganic waste. The garbage bags are collected daily by Nahdet Misr company for processing.
4. Batteries and other E-wastes are collected separately inside Alexandria University Campus and are delivered for special treatment by Nahdet Misr company. The E-Material are never trashed into a regular trash.
5. The University follows the Egyptian laws associated with disposal of hard materials waste No. (6) for the year 2009 and No. (9) for the year 1982 concerning with environment protection. Alexandria University has a yearly contract with Alexandria Governorate Hazardous Waste Management (NASERIA) for the disposal of Inorganic Waste.
6. By Nahdet Misr company, 10% of the sorted items in the form of paper, plastic, aluminium and glass are recycled, 60% of the collected inorganic waste are recycled in the form of alternative fuel (RDF), which is used in cement factories instead of diesel while the rest 30% are transported to Alexandria Governorate Hazardous Waste Management (NASERIA) to be buried in landfills.

Alexandria University Program to Reduce the Use of Paper and Plastic in Campus

Program 1: Development of electronic archiving system; the university faculties and the main campus are moving toward the electronic archiving system to reduce paper consumption.

Program 2: University decrees to reduce the use of paper in the campus:

2.1: The president decree to use the e-mails for communications inside the campus and between the university main campus and all the other campuses.

2.2: In the situations, the university or any of its faculties need to print the official documents; this has to be on recycled paper (2 faces copy).

2.3: The University formulated a community for administrative reform to minimize the administrative processes and decrease the use of papers except in who are relevant to financial process.

Program 3: Digital transformation toward electronic exams to reduce paper consumption.

Program 4: Digital transformation toward electronic course to reduce paper consumption and books printing.

Program 5: Electronic administration of student courses by about 50% instead of written administration to reduce paper consumption.

Total volume inorganic waste produced

Type of waste	amuont (ton) per Year		
	total	reduced	reused
Inorganic non-toxic	187 tons	15 tons	131 tons



Manual sorting hall in Nahdet Misr company for waste collection in Alexandria



Mixed plastic collected by Nahdet Misr company for wastes collection in Alexandria



Cans waste collected by Nahdet Misr company for wastes collection in Alexandria



Paper and carton baler in Nahdet Misr company for wastes collection in Alexandria



Cans press in Nahdet Misr company for wastes collection in Alexandria

Alexandria University Strategy for Disposal of Toxic Waste

1. The biohazards, medical hazards, and toxic chemical compounds are handled by a **special contract** with **Alexandria Governorate Hazardous Waste Management (NASERIA)**, which process these wastes according to the Egyptian law number 6 for year 2009 and low number 9 for year 1982. (attached Contract copy).
 - Medical waste:
Medical waste consists of several different subcategories that should all be dealt with in the same way:



Potential infectious waste includes all waste items that are contaminated with or suspected of being contaminated with body fluids.

Examples include: Blood, blood products, used catheters and gloves.

2. Batteries and other E-wastes are collected separately inside Alexandria University Campus and are delivered for special treatment by Nahdet Misr company. The E-Material are never trashed into a regular trash.

Approximately **2.190 tons of toxic waste in year 2022**, which consist of 100% toxic waste such as biohazards, medical hazards, and toxic chemical compounds of the university buildings are transported to Alexandria Governorate Hazardous Waste Management (NASERIA) to be buried in landfills.

Recycling of Solid and Electronic Waste in the Faculties and Institutes of Alexandria University

According to the decision of Alexandria University to transfer all solid waste to institutes, colleges, hospitals and university cities of the University at the Agricultural Research and Experiments Station in Abis as a central storehouse for the collection of iron priests (Wood - Iron - Alumetal - Computers - Projectors - Photocopiers - Printers - Fire Extinguishers - Doors - windows - wires, lighting poles, electric panels.....etc.), which are considered valuable solid waste worth recycling.

Recycling of solid waste is a good investment project, and with the increase of environmental awareness worldwide, the demand of recycled materials will rise. Alexandria University can save production and energy costs and reduce the negative impacts that the extraction and processing of virgin materials has on the environment.

Recycling old devices saves energy. It also means that fewer raw materials need to be drawn from nature to create new devices. Reusing old devices prevents e-waste by keeping it out of landfills.

The environmental aspect: The process of recycling solid and electronic waste mainly contributes to reducing the percentage of pollution of all kinds, by reducing the accumulation of waste, which contribute greatly in pollution of the environment due to the release of polluting gases and toxic elements in the air, water, and land. The process of recycling solid and electronic waste contributes in reducing the impact of human activity on the planet Earth.

Economic aspect: The process of recycling solid and electronic waste plays an important role in the reduction of economic expenditures, helping countries to meet the challenges related to the high prices of raw materials such as oil and coal. Recycling reduces the reliance on the export of the primary resources of many industries, thus reducing the cost of production. Which result in lower bill of taxes, customs duties, insurance premiums, transportation. On the other hand, the recycling process helps in reducing the consumption of natural raw materials used in different industries. Accordingly, the Energy consumption for manufacturing and production processes will be reduced.

The Treatment Program

- A specialized committee is selected including a member from the Engineering Department, according to the devices or tools under investigation.
- In case the devices are not useful, the committee recommends that the items will be transferred to the Agricultural Research and Experiments Station in Abis.
- Recycling warehouses are divided into sections according to the type of materials being recycled, for example: Calculators, printers, wood, Aluminum, etc
- Working teams are selected from the university faculties' maintenance units to benefit from these solid and electronic waste.

Total volume toxic waste produced

Type of waste	amuount (ton) / year	
	total	reduced
Toxic Total	3.11 ton	0.13 ton
- Biohazard	1.610 ton	0.08 ton
- Electronics	0.5 ton	0.01 ton
- Lab. Chemicals	1.0 ton	0.04 ton



Recycling Program for both materials and equipment with metals and derivatives (Alexandria University, Egypt)



The biohazards and medical hazards, and toxic chemical compounds are handled by Alexandria Governorate Hazardous Waste Management (NASERIA)



Alexandria University Program for Sewage Disposal

- Providing a sewage treatment plant at the university to make it suitable for irrigating green areas and gardens inside the university campus.
- The irrigated water supplied to the fish farm at the Agriculture Experimental Research Station of the Faculty of Agriculture is recycled to irrigate the crops, vegetables, and fruits of the land farm. The recycled water is rich with natural fertilizers and enhances the crops production.
- In addition, the water recycling in Fish Aquaculture of the Faculty of Agriculture, Alexandria University: The water sewage of the Aquaculture of the Faculty of Agriculture, Alexandria University which consist of eight ponds (one acre and quarter/each) in Abis region. Alexandria University used the recycled water for crops culturing in the adjacent agriculture research center in Abis.
- The use of biochar produced from Agricultural waste and waste Forests in residual removal chlorpyrifos pesticide Imidacloprid is from water agricultural drainage. Cooperation project between the Egyptian Academy of Research Science and Technology and the Czech Academy of Sciences.
- The sewage water will be treated and reused in the irrigation of green areas in Alexandria National University.
- Faculty of Pharmacy is 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 repumping 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.

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.



The water sewage of the Aquaculture of the Faculty of Agriculture (Alexandria University, Egypt)



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

Treatment of Alexandria University Sewage by Alexandria Sanitation Company

An amount of water of 967,694.74 is consumed by all colleges and institutes affiliated to Alexandria University, of which the amount of sewage is 870,925,266 m³, which is lifted through a group of lifting stations to be treated through treatment stations affiliated with the Alexandria Sanitation Company.

1. Secondary biological treatment, where solid waste is separated from liquid waste.
2. **Treated water:** As for the water resulting from first treatment, it is reused within the New Delta Project (the value of the reused water for Alexandria University represents 870,925.266 m³).
3. The Tertiary treatment for use in land reclamation with a design capacity of 7.3 million m³, include 1.7 million cubic meters of treated wastewater form the secondary treatment.



Second treatment of Alexandria University Sewage by Alexandria Sanitation Company



Reclaiming 800 thousand acres in the new delta using treated water from sewage

Green Cycle Project in Faculty of Pharmacy – Alexandria University

The Faculty is advancing the “Green Circle” project, which is a non-profit project that seeks to keep the environment clean and green in a sustainable way by separating waste for recycling and establishing charitable markets to benefit from used clothes. 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.

[4] Water (WR)

Water Conservation Program Implementation

Alexandria University program to decrease the water consumption in its faculties and buildings:

Campus water use is an important indicator in the sustainability scale. The aim is to urge universities to reduce water use, increase water conservation programs, and protect the environment. Among these criteria:

- The water conservation program,
- The water recycling program
- The use of water-saving equipment
- The treatment of wastewater
- The rainwater collection program



- 1- The University has applied a strategy in the faculties to decrease water consumption through installation of special parts on water taps, showers, toilette and bathroom bidet which can conserve about 50% of water consumption.
Water saving devices are used instead of traditional devices. For example, the use of a hand-washing faucet with automatic control via a sensor, and high-efficiency bathroom devices. Supplying water taps with water conservation units.
2. Adopting a mechanism to maintain water pipes to prevent waste resulting from leaks.
3. Adopting plans and mechanisms for maintaining the taps and internal supply networks of the university to prevent water wastage.
4. Providing a sewage treatment plant at the university to make it suitable for irrigating green areas and gardens inside the university campus.
5. The irrigated water supplied to the fish farm at the Agriculture Experimental Research Station of the Faculty of Agriculture is recycled to irrigate the crops, vegetables, and fruits of the land farm. The recycled water is rich with natural fertilizers and enhances the crops production.
6. In addition, the water recycling in Fish Aquaculture of the Faculty of Agriculture, Alexandria University: The water sewage of the Aquaculture of the Faculty of Agriculture, Alexandria University which consist of eight ponds (one acre and quarter/each) in Abis region. Alexandria University used the recycled water for crops culturing in the adjacent agriculture research center in Abis.
7. The use of biochar produced from Agricultural waste and waste Forests in residual removal chlorpyrifos pesticide Imidacloprid is from water agricultural drainage. Cooperation project between the Egyptian Academy of Research Science and Technology and the Czech Academy of Sciences.
8. IOT Pilot Project in Egypt by Shanghai Water Saving Irrigation Corp. Etd performed an automatic controlled irrigation systems IOT project for modern irrigation technology. The company implanted the IOT platform project to irrigate economic crops and facilitate irrigation systems to overcome the water shortage problems in Egypt. This project will be performed in Alexandria University Farm for agroecological farming in Egypt.

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.

Integrated strategy Project for rainwater management in Alexandria Governorate in cooperation with Alexandria University

Remote sensing technology was used to know the current values of Rain and assess the current situation with the help of satellites. This is done with the help of the following artificial satellites:

- TRMM and GPM are two of the NASA satellites. (Administration National Aeronautics and Space Administration, United States of America)
- NOAA (National Oceanic, Atmospheric, and Space Administration, United States of America)
- NCEI (National Center for Environmental Information in the United States of America)

Proposed rain management strategy

A separate network will be created to drain rainwater for the nearest body of water for areas close to the body of water. The first area is the Corniche, where rainwater is collected and discharging it into marine estuaries. The second area is on both sides of the Mahmoudiyah and Beheira axis near the airport. The rainwater is collected and part of it is drained on the canal and the other part on the airport lake.

In the third stage of the project, the two projects on the airport lake to exploit rainwater will be linked to the New Delta project. The rainwater will be used to irrigate the crops, vegetables, and fruits in the New Delta.



Supplying water taps with water conservation units (Alexandria University, Egypt)

Adopting a mechanism to maintain water pipes to prevent waste resulting from leaks (Alexandria University, Egypt)

Alexandria University program for water recycling and consumption of treated water

1. Providing a sewage treatment plant at the university to make it suitable for irrigating green areas and gardens inside the university campus.
2. The irrigated water supplied to the fish farm at the Agriculture Experimental Research Station of the Faculty of Agriculture is recycled to irrigate the crops, vegetables, and fruits of the land farm. The recycled water is rich with natural fertilizers and enhances the crops production.
3. In addition, the water recycling in Fish Aquaculture of the Faculty of Agriculture, Alexandria University: The water sewage of the Aquaculture of the Faculty of Agriculture, Alexandria University which consist of eight ponds (one acre and quarter/each) in Abis region. Alexandria University used the recycled water for crops culturing in the adjacent agriculture research center in Abis.
4. The use of biochar produced from Agricultural waste and waste Forests in residual removal chlorpyrifos pesticide Imidacloprid is from water agricultural drainage. Cooperation project between the Egyptian Academy of Research Science and Technology and the Czech Academy of Sciences.
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Renewable Energy and Water Desalination Activities at Alexandria University

Renewable Energy Center site is a host of different RE technologies and different RE-Desalination technologies. The site “East of EL-Gaar Village” at Wadi El-Natroon has both predictable wind energy as well as an abundance of sunlight. Thus, this is a natural application for a hybrid system.

The modular hybrid power supply concept proposes the coupling of all sources of energy, storage media and loads on the AC-side.



Advantages of the Modular Hybrid RE systems:

- Simplicity in System Design
- Expandable, can be run autonomously or be connected to a larger grid
- Offer higher reliability and supply security
- Lower power cost for the consumers
- Production of AC single phase or three phase
- The AC-side structure provides standardization, quality assurance and serial production
- The coupling on the generation technologies on the AC side offers the possibility of placing the generators far apart from each other (distributed generation).

REC site is planned to be a host of different RE technologies and different RE-Desalination technologies such as:

- Hybrid RE technologies (solar, wind, biomass, Hydrogen and fuel cell)
- Hybrid Desalination technologies (RO, MSF, NF,... Etc)
- Different types of solar cell technologies (thin film, Mono crystalline, Polycrystalline cells)
- Different solar energy technology (PV, CSP, Solar water heating systems, solar dryers)
- Solar Greenhouses.

Activity: Innovative Renewable Energy (RE) Driven - Multi Stage Flash (MSF) System with Salts Precipitator and Nano Filtration (NF) Feed Water pre Treatment (RE-NF-MSF)-, contract # RDI - C2/S1/148.



100 m3 Desalination Unit, Wadi El-Natroom (Faculty of Agriculture, Alexandria University)



Innovative Renewable Energy (RE) Driven - Multi Stage Flash (MSF) System with Salts Precipitator and Nano Filtration (NF) Feed Water pre Treatment (RE-NF-MSF). (Faculty of Agriculture, Alexandria University)

Water Excellence Center - Alexandria University

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.



Water Excellence Center - Alexandria University

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

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.
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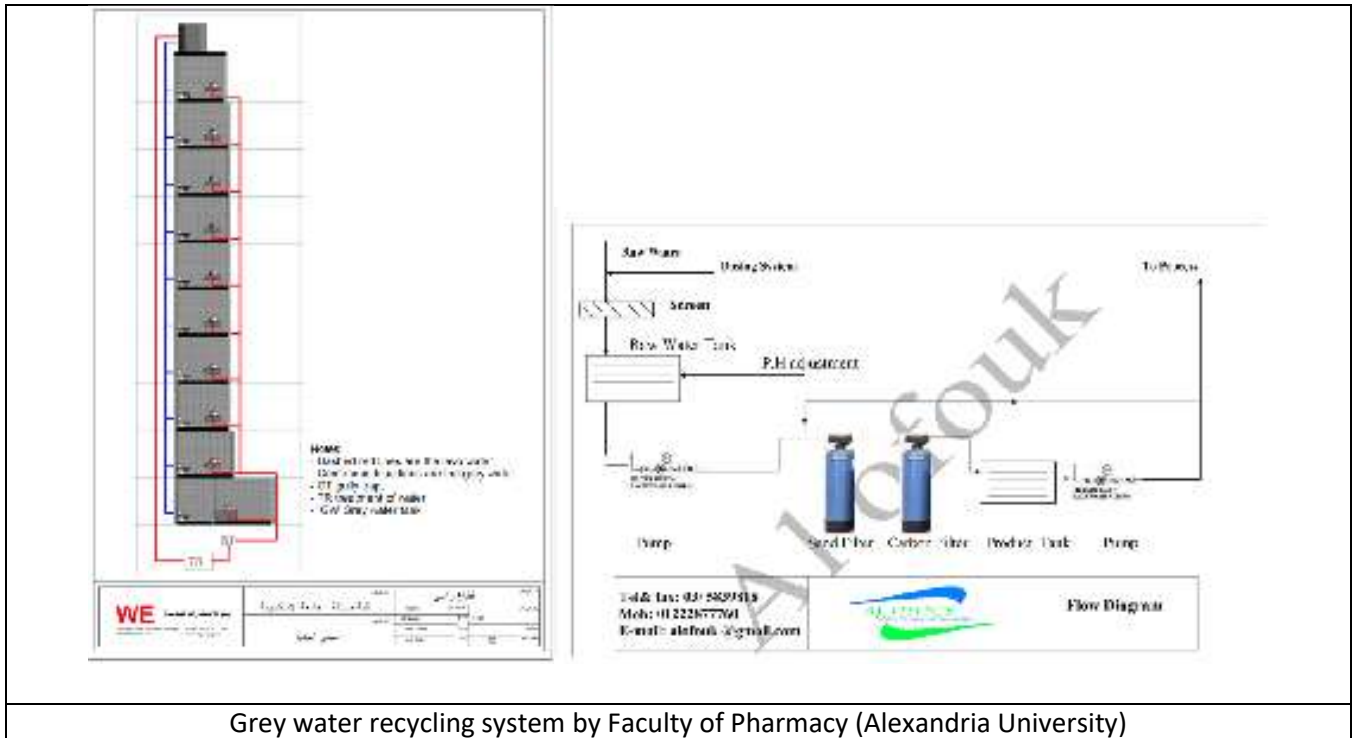
Green Cycle project in the Faculty of Pharmacy - Alexandria University

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.



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

Reused water at Alexandria University

An amount of water of 967,694.74 is consumed by all colleges and institutes affiliated with the Alexandria University, of which the amount of sewage is 870,925,266 m³, which is lifted through a group of lifting stations to be treated through treatment stations affiliated with the Alexandria Sanitation Company.

1. Secondary biological treatment, where solid waste is separated from liquid waste.
2. **Treated water:** As for the water resulting from first treatment, it is reused within the New Delta Project (the value of the reused water for Alexandria University represents 870,925.266 m³).
3. The Tertiary treatment for use in land reclamation with a design capacity of 7.3 million m³, include 1.7 million cubic meters of treated wastewater form the secondary treatment.



Reused water at Alexandria University

An amount of water of 967,694.74 is consumed by all colleges and institutes affiliated with the Alexandria University, of which the amount of sewage is 870,925,266 m³, which is lifted through a group of lifting stations to be treated through treatment stations affiliated with the Alexandria Sanitation Company. Secondary biological treatment, where solid waste is separated from liquid waste.

Integrated strategy Project for rainwater management in Alexandria Governorate in cooperation with Alexandria University

Remote sensing technology was used to know the current values of Rain and assess the current situation with the help of satellites. This is done with the help of the following artificial satellites:

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Proposed rain management strategy

A separate network will be created to drain rainwater for the nearest body of water for areas close to the body of water. The first area is the Corniche, where rainwater is collected and discharging it into marine estuaries. The second area is on both sides of the Mahmoudiyah and Beheira axis near the airport. The rainwater is collected and part of it is drained on the canal and the other part on the airport lake.

In the third stage of the project, the two projects on the airport lake to exploit rainwater will be linked to the New Delta project. The rainwater will be used to irrigate the crops, vegetables, and fruits in the New Delta.



Integrated strategy project for rainwater management in Alexandria Governorate in cooperation with Alexandria University

Water Efficient Appliances Usage

Some examples of water conservation measures include, low flow of urinal flushing, low flow of toilet flushing and low flow taps.

Appliance	Total Number	Total number water Efficient appliances	Percentage
Urinal	208	100	48%
Toilet	416	180	43%
bathroom faucets (Water taps)	1605	1090	68%
Showers	30	20	67%
		Average Percentage	56.5%



Alexandria University program to decrease the water consumption in its faculties and buildings:

Campus water use is an important indicator in the sustainability scale. The aim is to urge universities to reduce water use, increase water conservation programs, and protect the environment. Among these criteria:

- The water conservation program,
- The water recycling program
- The use of water-saving equipment
- The treatment of wastewater
- The rainwater collection program

2- The University has applied a strategy in the faculties to decrease water consumption through installation of special parts on water taps, showers, toilette and bathroom bidet which can conserve about 50% of water consumption.

Water saving devices are used instead of traditional devices. For example, the use of a hand-washing faucet with automatic control via a sensor, and high-efficiency bathroom devices. Supplying water taps with water conservation units.

9. Adopting a mechanism to maintain water pipes to prevent waste resulting from leaks.
10. The use of efficient and modern Techniques for irrigation of green and planted areas in the Alexandria University Campus.
11. Adopting plans and mechanisms for maintaining the taps and internal supply networks of the university to prevent water wastage.
12. Providing a sewage treatment plant at the university to make it suitable for irrigating green areas and gardens inside the university campus.
13. The irrigated water supplied to the fish farm at the Agriculture Experimental Research Station of the Faculty of Agriculture is recycled to irrigate the crops, vegetables, and fruits of the land farm. The recycled water is rich with natural fertilizers and enhances the crops production.
14. In addition, the water recycling in Fish Aquaculture of the Faculty of Agriculture, Alexandria University: The water sewage of the Aquaculture of the Faculty of Agriculture, Alexandria University which consist of eight ponds (one acre and quarter/each) in Abis region. Alexandria University used the recycled water for crops culturing in the adjacent agriculture research center in Abis.
15. The use of biochar produced from Agricultural waste and waste Forests in residual removal chlorpyrifos pesticide Imidacloprid is from water agricultural drainage. Cooperation project between the Egyptian Academy of Research Science and Technology and the Czech Academy of Sciences.
16. IOT Pilot Project in Egypt by Shanghai Water Saving Irrigation Corp. Etd performed an automatic controlled irrigation systems IOT project for modern irrigation technology. The company implanted the IOT platform project to irrigate economic crops and facilitate irrigation systems to overcome the water shortage problems in Egypt. This project will be performed in Alexandria University Farm for agroecological farming in Egypt.

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 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=oKRMg7QVNpwrC2AcXP2REMBXozjKAU3KA86qpAI9>



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

Link: <https://egac.gov.eg/en/entity-details/?tc=fPqxMfYxY7MHFifwTbSpi9CWwRe8hCq25J2IFNG0>

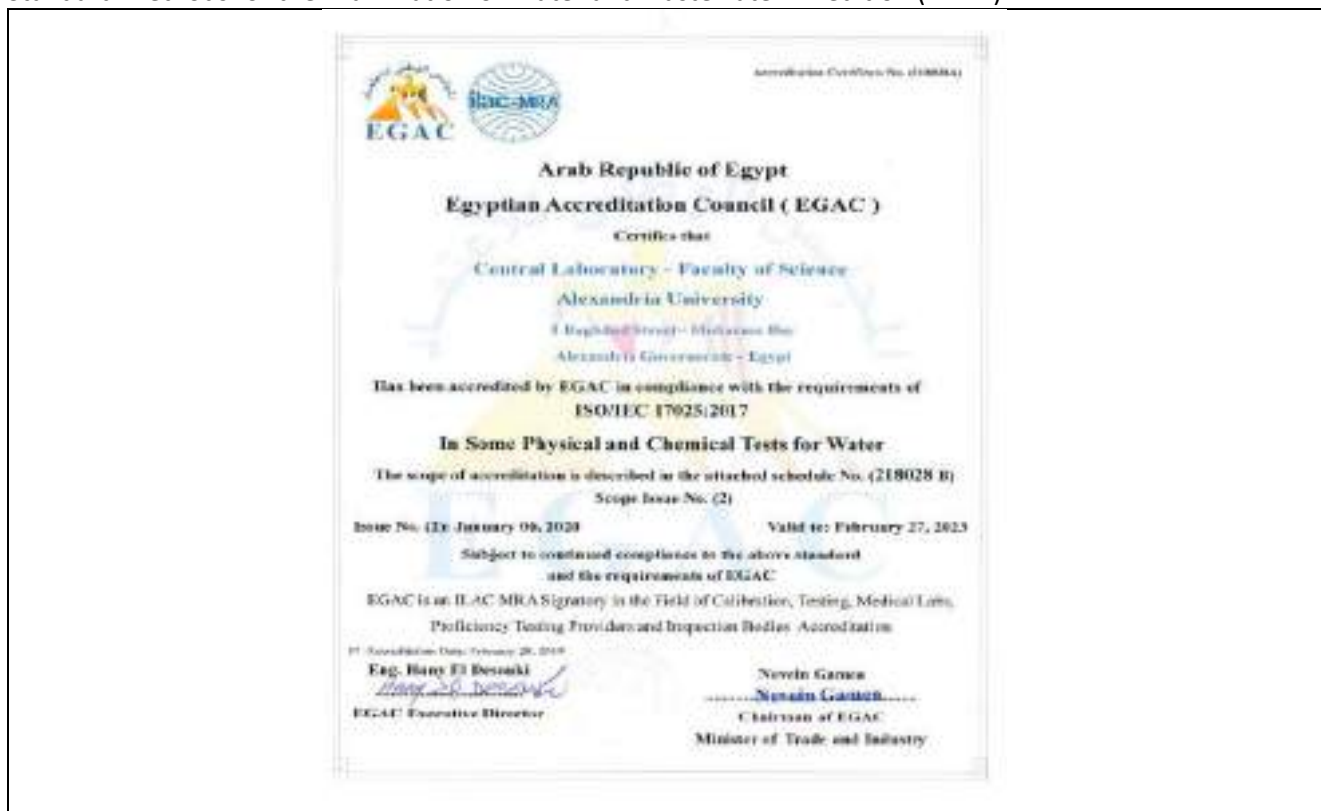
Wastewater Treatment

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).



**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 الوطني للاعتماد
إيجاك

Schedule of Accreditation
for Testing Laboratory According to ISO/IEC 17025
Issued to
ICP-OES Laboratory
Institute of Graduate Studies and Research Alexandria University
(102) Hanyou Avenue Shoubra
Alexandria Governorate - Egypt

Schedule No.: 02222108 1st Accreditation date: July 25, 2021 Issue No. (I): July 25, 2021 Revision No. (r): Valid to: July 25, 2026

Materials / Products Tested	Types of Tests / Properties Measured / Range of Measurements		Standard Specifications / Techniques Used	
	Element	LOQ (µg/L)	EPA method 200.7/200.1 EPA method 6010 C/2007	Inductively Coupled Plasma Optical Emission Spectrometer (ICP- OES) Model: 5110 ICP-OES VDV S/N: AU1602018
Water	Al	26.4		
	As	72.4		
	Ag	4.00		
	Ba	4.32		
	Cd	5.12		
	Cy	4.48		
	Ca	6.94		
	Fe	24.8		
	Mn	19.8		
	Ni	22.4		
	Pb	28.2		
	Zn	18.0		
	Se	42.9		
	Be	19.1		
	Sr	7.92		
	K	25.9		
	Na	66.6		
	Co	4.00		
	Mg	2.97		
	Hg	14.9		

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1494001
17 May 2018
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كروماتوغرافيا الغاز - دمج بلازما - التحليل - التبريد
تجهيز : 1494001 - 17/05/2018
رقم : 1494001 (1)

الجمعية الوطنية لمهنة الاعتماد الصناعي في مصر (Association of Industrial Engineers and Technicians in Egypt)

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

Ministry of
Trade and Industry
Egyptian Accreditation Council
EGAC

وزارة التجارة والصناعة
المجلس الوطني للاعتماد
إيجاك

Schedule of Accreditation
for Testing Laboratory According to ISO/IEC 17025
Issued to
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Schedule No.: 02222108 1st Accreditation date: July 25, 2021 Issue No. (I): July 25, 2021 Revision No. (r): Valid to: July 25, 2026

Materials / Products Tested	Types of Tests / Properties Measured / Range of Measurements		Standard Specifications / Techniques Used	
	Element	LOQ (µg/L)	EPA method 200.7/200.1 EPA Method 2051 A/2007 EPA Method 8013 C/2007	Inductively Coupled Plasma Optical Emission Spectrometer (ICP- OES) Model: 5110 ICP-OES VDV S/N: AU1602018
Soil	Ag	43.2		
	As	52.8		
	Ba	11.1		
	Cd	12.3		
	Co	8.76		
	Cr	42.8		
	Cu	12.7		
	Hg	48.5		
	Mn	14.0		
	Mg	18.3		
	Ni	96.0		
	Pb	29.1		
	Zn	29.5		
	Sr	21.8		
	Sr	2.91		
	Sb	46.7		
	Ti	15.0		
	Nb	318		
	Fe	202		

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

[5] Transportation (TR)

The total number of vehicles (cars and motorcycles) divided by total campus' population



No.	Vehicle	Total Number
1	Vehicles managed by the university including Cars, Buses and Trucks.	42
2	Total number of Buses	42
3	Cars entering the university	820
4	Motorcycles entering the university	Not available
	Total	904

904 (vehicles) / 214939 (population) = **0.0042**

Alexandria University provides shuttle service.

The number of shuttles operating in Alexandria University are 42 buses. Seven old buses with an average number of passengers per shuttle of 39 passengers. 35 new shuttle Buses were purchased, with the average number of passengers per shuttle of 51 passengers. The shuttles make nearly 2 trips per day (42 x 2) at a fixed time and fixed line paths to provide convenience for the passengers and at the same time to reduce the problems caused by the impact of increased traffic intensity on the local environment such as deteriorating air quality and traffic jams.

In addition, the number of cars managed by the University increased. Maintenance for a large number of cars, which were out of service, was performed. The University encouraged car sharing (carpooling) among the faculty members, especially all the academic administrators, which accordingly could reduce the number of cars entering the university.

The university also allows other community shuttle services to offer their services with reasonable price for the employees, staff members and students.

Shuttle Services

The University sites are mainly in the city. These sites are very well served by local buses run by the County Councils or and private minibuses.

The number of shuttles operating in Alexandria University are 42. Seven old buses with average number of passengers per shuttle is 28/50 passengers. 35 new shuttle Bases were purchased, with the average number of passengers per shuttle of 51 passengers. The shuttles make nearly 2 trips per day (42 x 2) at a fixed time and fixed line paths to provide convenience for the passengers and at the same time to reduce the problems caused by the impact of increased traffic intensity on the local environment such as deteriorating air quality and traffic jams.

The university also allows other community shuttle services to offer their services with reasonable price for the employees, staff members and students.

Zero Emission Vehicles (ZEV) Policy on Campus

Alexandria University encourages zero emission vehicle policy through

1. Providing bike parking for students and allowing the bicycles to enter the campus.
2. The University council approved a bicycle initiative for each student, with initial strategy with 2000 bicycles in the first year and 500 bicycles per year, in addition to 100 bicycles to move inside campus. An agreement has been signed with some national banks to offer it for monthly fees for long term so that the student does not bear a large amount monthly.
3. The University provided an information desk in every Faculty to register the students in this initiative and help them during the contracting process.
4. Some awareness seminars about the benefits of using bicycles as transportation method were held, the first seminar was held in November 2019 in the higher institute of public health delivered by the president of the federation of cycling, and the participation of the CSR team.
5. Cycling marathons per month in cooperation with the fund of “You are stronger than drugs” and commissioned to the Faculty of Physical Education. All the faculties held a cycling festival in each year, lately a cycling marathon was held in from 27 to 29 October 2022 between the Faculty of Science and the Faculty of Physical Education for Boys, University of Alexandria.



The launch of the sports marathon “running and cycling” from the Camp Shizar area to the Department of Marine Sciences - Faculty of Science, Alexandria University, Anfushi. This comes within the activities of the Scientific Conference on Climate Change and Sports, which was held in the period from 27 to 29 October 2022 in cooperation between the Faculty of Science and the Faculty of Physical Education for Boys, University of Alexandria.

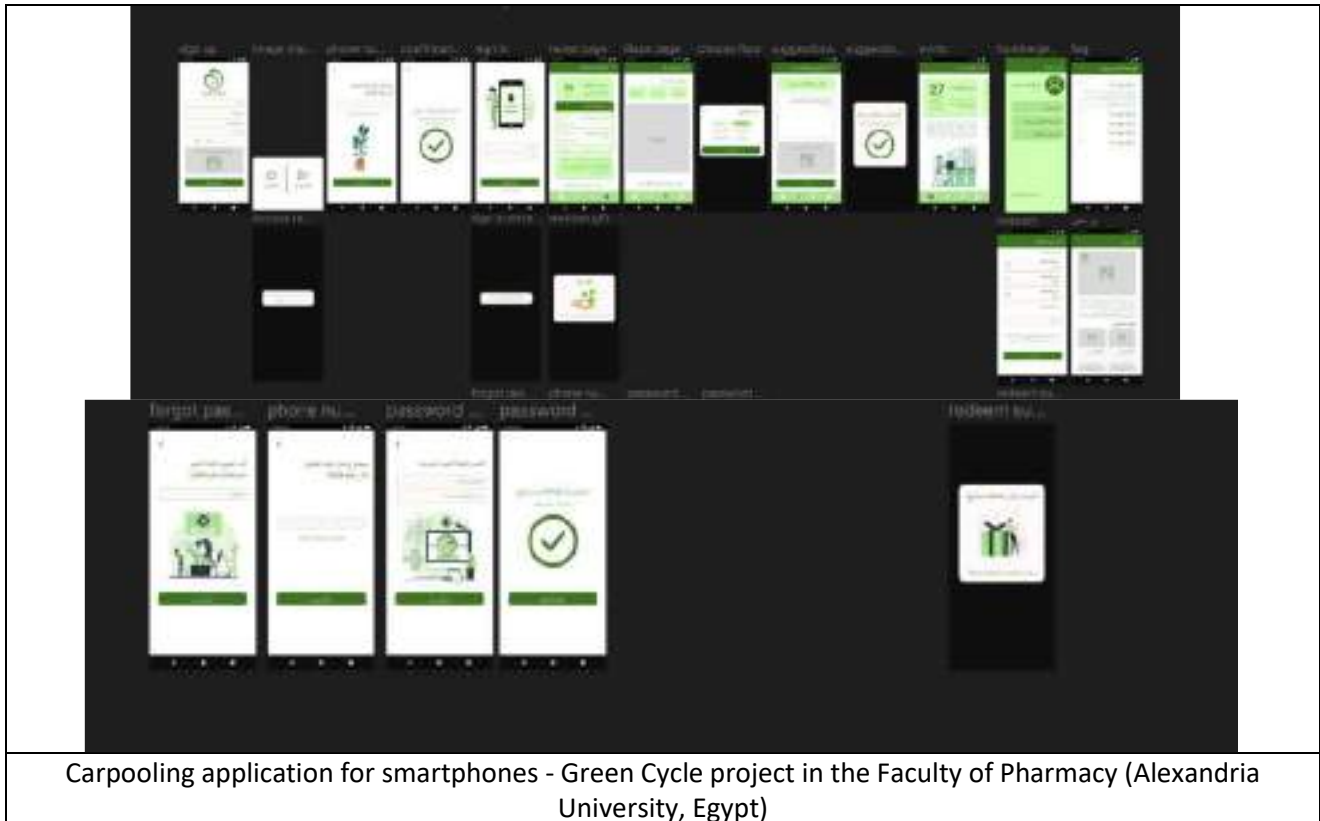
Green Cycle project in the Faculty of Pharmacy - Alexandria University

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.

The students at the Faculty of Pharmacy developed an application, prepared for smart phones, which enables Faculty members and college employees to share cars for transportation in a safe manner.

This initiative is a prototype and a starting point for Alexandria University.

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



Ratio of Parking Area to Total Campus Area

Total main campus area: 8083208.274 m²
 Total parking area = 310,892.62 m² (24,871.41 spaces*12.5m² per space).
 Ratio = 8083208.274 m² : 310,892.62 m² = **26 : 1**
 Parking area: **3.85%** of total campus area

Program to decrease the parking area on campus for the last 3 years (2020 - 2022)

- According to the documented information received from the University’s “Information, Documentation and Decision Support Center”, the University Car Parking area occupy 3.85% from the total area of the Campus, and are allocated for Faculty members and administrators.
- The University provides mass transportation (shuttle buses) for employees and faculty members to drive to and from the University instead of using their private cars. These buses park mostly outside the University Campus.
- The University provides the opportunity to contract with some private transportation companies to facilitate the movement of Faculty members and students, and these buses park temporarily outside the University Campus.
- The students park their cars outside the University Campus and walk inside the Campus.
- The University encourage car sharing (carpooling) among the faculty members and students, to reduce the number of cars entering the University Campus and limit the parking area and adopt healthy and sustainable transportation options.
- The university provides bike parking for students and allow the bicycles to enter the campus.
- Encouraging students, employees and faculty members who leaves around the University Campus to go by walking instead of using a Car.
- Increasing the University green area.

- A competition between the faculties in the University was set titled “Towards an Eco Faculty” was set. This competition encourages all the different faculties to use their resources in a way that fulfils the idea of green faculty and green environment.
- **Green Cycle project at the Faculty of Pharmacy - Alexandria University**
 The project began in October 2022 by organizing several 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.
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Number of Transportation Initiatives to Decrease Private Vehicles on Campus



Alexandria University Shuttle Service Station



Campus Bikes parking at the Faculty of Engineering (Alexandria University, Egypt)



Ride Share (Carpool) (Faculty of Pharmacy, Alexandria University, Egypt)



Shuttle Services (Alexandria University)

1. Shuttle/bus park inside and outside the campus
 - Alexandria University provides shuttle service. The number of shuttles operating in Alexandria University are 42 buses. Seven old buses with average number of passengers per shuttle is 28/50 passengers. 35 new shuttle Buses were purchased, with the average number of passengers per shuttle of 51 passengers. The shuttles make nearly 2 trips per day (42 x 2) at a fixed time and fixed line paths to provide convenience for the passengers and at the same time to reduce the problems caused by the impact of increased traffic intensity on the local environment such as deteriorating air quality and traffic jams.
 - The University provides mass transportation (shuttle buses) for employees and faculty members to drive to and from the University instead of using their private cars. These buses park mostly outside the University Campus.
2. The University provides the opportunity to contract with some private transportation companies to facilitate the movement of Faculty members and students, and these buses park temporarily outside the University Campus.
3. The students park their cars outside the University Campus and walk inside the Campus.
4. The University encourage car sharing (carpooling) among the faculty members and students, to reduce the number of cars entering the University Campus and limit the parking area, and adopt healthy and sustainable transportation options.

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.

The students at the Faculty of Pharmacy developed an application, prepared for smart phones, which enables Faculty members and college employees to share cars for transportation in a safe manner. This initiative is a prototype and a starting point for Alexandria University. **Alexandria University** have generalized this initiative in some of the faculties of Alexandria University in gradual stages.

5. Bicycle parking on campus: The university provides bike parking for students and allow the bicycles to enter the campus.
6. Encouraging students, employees and faculty members who leaves around the University Campus to go by walking instead of using a Car.
7. Increasing the University green area.



- A competition between the faculties in the University was set titled “Towards an Eco Faculty” was set. This competition encourages all the different faculties to use their resources in a way that fulfils the idea of green faculty and green environment.

Pedestrian Path Policy on Campus

- Separator between road for vehicle and pedestrian path.
- Street lamp for pedestrian in night.
- Replacing steps with ramps which have suitable design for pedestrian having physical disabilities.
- The travel distance of the vehicle inside campus are very limited. The streets inside the campus are also limited. The people enters the campus with their cars only to use the available Parking area.

[6] Education and Research (ED)

Number of Courses/Subjects Related to Sustainability Offered

Alexandria University offers a group of courses related to the environment and sustainability in various sectors, in line with the state’s strategies to achieve sustainable development goals and to achieve the goals of linking science with industry and qualifying the graduate to find job opportunities commensurate with the field of specialization. The university works to qualify the graduate by providing various awareness and training programs during the study period. The university also provides a distinguished group of postgraduate programs that are compatible with their counterparts in international universities, as indicated by the indicator data for this standard.



- Physicochemical Processes in Environmental Engineering
- Sustainable Built Environment
- Sustainable Water Resources Development
- Environmental Sampling and Analysis
- Unit Operation for Environmental Engineers
- Thermodynamics for Environmental Engineers
- Environmental Microbiology
- Environmental Aquatic Chemistry
- Environmental Organic Chemistry
- Climate Change
- The Nile; Environments, Limnology & Human Use
- Site Assessment and Remediation
- Climate Systems
- Advanced Environmental Engineering
- Integrated Environmental Assessment
- Environmental Impacts of Power Generation
- Environmental Sensor Informatics
- Cities and the Challenge of Sustainable Development
- Green Entrepreneurship and Agribusiness
- Sustainable Energy Resources and Management
- Sustainable Management of Marginal Drylands
- Sustainable Farming Systems: Hydro and Aquaponics
- Sustainable Development
- Environmental Hydrology



- Projects Management
- Fundamentals of environmental sciences
- Sustainable development
- Climate dynamics
- Climate change mitigation, vulnerability and adaptation
- Environmental economics and management
- Statistical analysis in climate research
- Economic valuation and climate change
- Green economy
- Geographical information systems applications in climate change
- Remote sensing and environmental change
- Environmental risk assessment and management
- Community engagement and sustainable development
- Climate change, biodiversity and ecosystems functions
- Climate change and health
- Urban environment
- Geopolitics of climate change
- Scientific research skills
- Introduction to Climate Change
- Meteorology and Climate Observation
- Marine Resources and sustainability
- Environment Risk Assessment and Management
- Climate Change Management
- Numerical Modeling and tools
- GIS and Remote Sensing
- Research Methodology and Ethics
- Climate and Ocean Modeling
- Climate Smart Agriculture
- Nanotechnology and Climate Change
- Sustainable Blue Economy
- Coral Reefs and Climate Change
- Energy Efficiency Management in Maritime Industry
- Environmental Impact Assessment
- Integrated Coastal Zone Management
- Climate Change and Biodiversity
- Global Environmental Governance
- Strategic Planning and Project Management
- Quality and Safety Management Systems
- Climate Change effects on Coastal Dynamics
- Adaptation Strategies to Climate Change for Hydraulic Risk Prevention in Coastal Areas
- Climate Change Policy of the EU
- Adaptation and Mitigation to Climate Change in Spatial Planning
- Master of Waste Water Engineering Practice
- Master of Drinking Water Engineering Practice
- Master of Radiation Physics Practice
- Master of Petrochemicals and Hydrocarbon Processing Practice
- M.Eng. Water Recourse
- M.Eng. in Irrigation Structures
- M.Eng. in Environmental Engineering
- M.Eng. in Thermal Engineering



- M.Eng. in Combustion Engines
- M.Eng. in Electrical Energy Systems and Control
- M.Sc./Ph.D in Electrical Engineering (Electrical Power and Machines)
- Master of Climate Change and Sustainable Development
- International Master of Smart Environmental Management of Climate Change
- International Master of Natural Resources Sustainability for Land Development
- International Master of Sustainable Management of Fisheries and Aquaculture Science
- Environmental silviculture and tree – resources management
- Pest control & environment protection from cides pollution.
- Soil and water sciences
- Pesticides chemistry and technology
- Sustainable management of water resources
- Sustainable management of land resources
- Occupational Hygiene and Air Pollution
- Environmental Health
- Food Hygiene and Control
- Environmental Health
- Occupational Hygiene and Air Pollution
- Food Hygiene and Control
- Environmental Studies - Biological Science
- Climatic Change and Sustainable Development
- Environment and Energy
- Sustainable Cities
- Sustainable Communities
- Soil and Water

Example of Programs and Courses/Subjects Related to Sustainability (Alexandria University, Egypt)

Above is a list of examples of programs and courses which aims to embed sustainability that are offered by the University.

The total number of courses related to the environment and sustainability in the various sectors of the university, running in the academic year 2022 – 2023, according to the data received from the colleges and specified in previous detailed table, is **1496**, which represents approximately **11.1 percent** of the total number of courses for the undergraduate and graduate levels, in 25 Faculties and Institutes at the University.



In this context, the table below shows the total number of courses related to the environment and sustainability according to the specializations of the university's various faculties and institutes:

Sectors	Number of courses related to environment and sustainability		Total number of courses Offered during the academic year 2022/2023	Percentage of the number of courses related to environment and sustainability
	Undergraduate studies	postgraduate studies		
Medical sector (dental-pharmacy-nursing-veterinary medicine- - Medical Research Institute)	136	463	13520	11.1%
Basic sciences sector (Engineering - Agriculture - Saba Pasha Agriculture - Science - Fine Arts - Specific Education - Graduate Institute)	237	313		
Humanities sector (Commerce - Arts - Tourism and Hotels - Education - Law - Physical Education for Boys - Physical Education for Girls - Early Childhood Education)	223	124		
Total numbers	596	900		

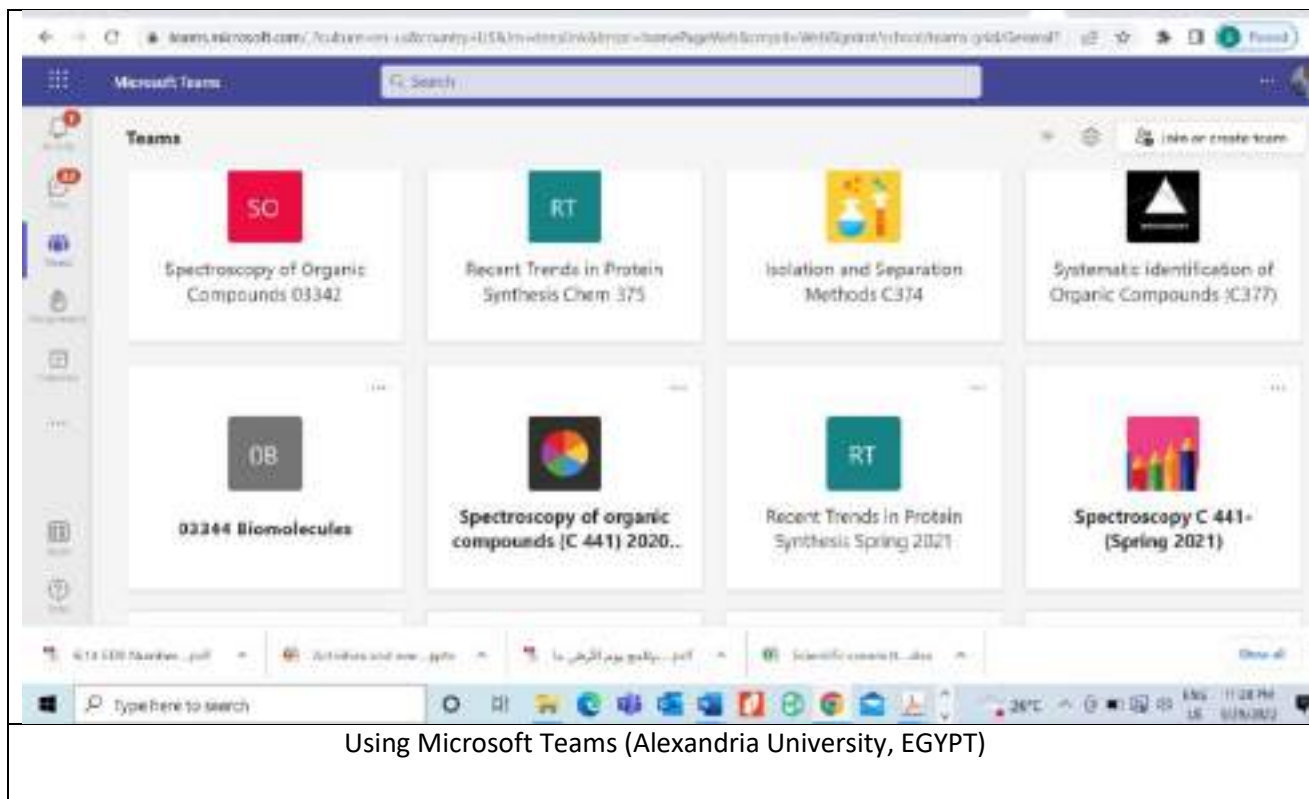
Total Number of Courses/Subjects Offered

Total Courses offered at Alexandria University, Egypt in 2020-2023

Courses	2020/2021	2021/2022	2022/2023
Number of courses/subjects offered for undergraduate programs	6906	6906	6906
Number of courses/subjects offered for Postgraduate programs.	6604	6916	6916
Total number of courses	13510	13520	13520

Total number of courses offered in **2022/2023 = 13520** courses

Online Courses



Using Microsoft Teams (Alexandria University, EGYPT)

Microsoft team, Moodle, Google classroom and social media are used.

Switching to blended-Learning for precautionary measures was implemented during the COVID-19 pandemic. Moodle, google classroom, social media were used to continue the relationship with the students while maintaining the precautionary measures until the University has an agreement with Microsoft team as a formal platform with blended learning 40% online and 60% traditional methods. Professors were not ready to switch to blended learning and some were completely not familiar with e-Learning platforms. Many workshops were conducted to enhance the use of blended learning and Microsoft team during the COVID-19 pandemic that organized by Innovation in Pedagogy and Aiding Distance Learning Unit.

The total number of online courses which were opened in academic year 2021/2022 were 3778 virtual courses (attached document, page 5). While, the total number of online courses which were opened in the academic year 2022/2023 were 2301 undergraduate virtual courses and 886 postgraduate virtual courses.

Virtual Labs

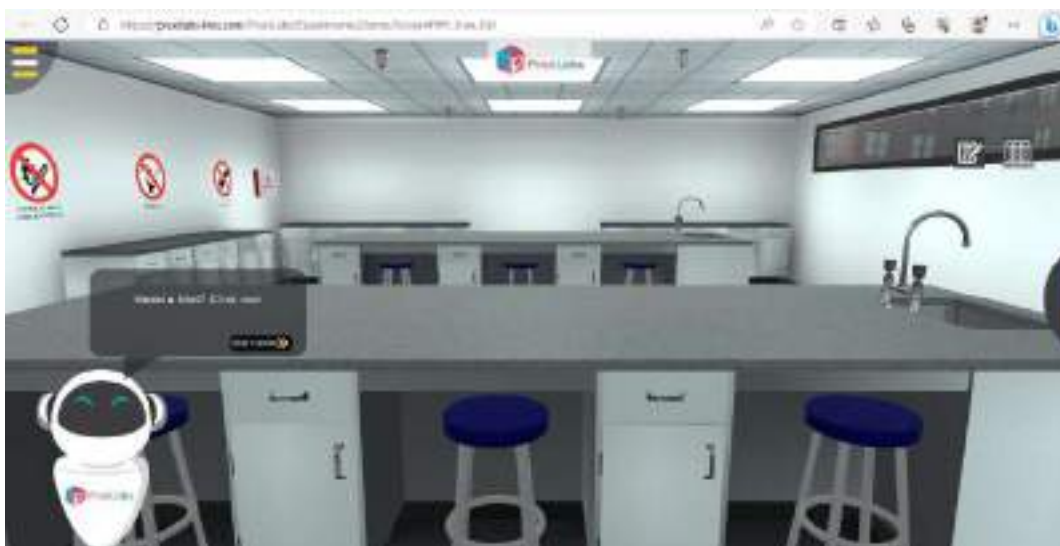
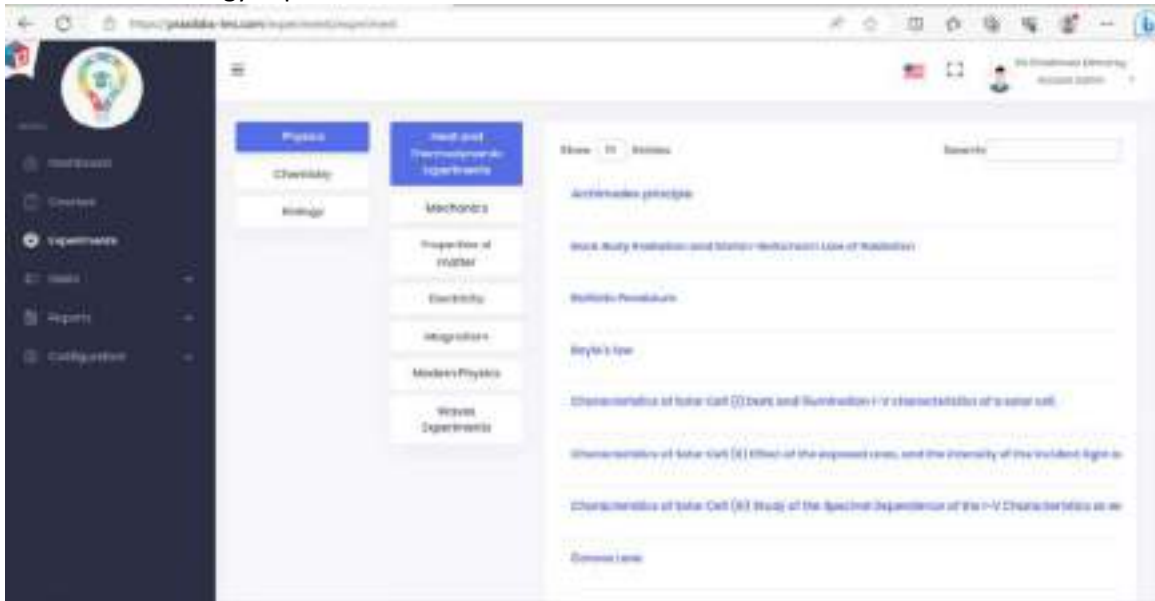
Virtual Labs were established in Alexandria University to give the opportunity for instructors and their students to practice various kinds of labs remotely without being physically present in the lab.

Virtual Labs are 3D virtual labs for students to practice physics, biology and chemistry lab Experiments (attached example of the system used).

There are 36 physics experiments

There are 92 chemistry experiments

There are 58 biology experiments





Total Research Funds Dedicated to Sustainability Research (in US Dollars)

Total research fund dedicated to sustainability research in 2019 = 31,012,500 US Dollars

Total research fund dedicated to sustainability research in 2020 = 1,421,363 US Dollars

Total research fund dedicated to sustainability research in 2021 = 1,716,690 US Dollars

Total research fund dedicated to sustainability research in 2022 = 2,128,253 US Dollars

The averaged annum last 3 years of research fund dedicated to sustainability research = 1,755,435.33 US Dollars

Additional evidence link: www.pmu.alexu.edu.eg

Example of some projects:

1. Natural Resources Sustainability for Land Development (Erasmus+ Project, European Union) in collaboration of Alexandria University (Egypt) with Aachen University (Germany)

Erasmus+ Project, European Union

The participating countries and Universities: Germany (RWTH Aachen), Egypt (Alexandria University, Heliopolis University, the American University in Cairo, Aswan University), Cyprus (CITY College – Sheffield University), Italy (University of Palermo), Spain (Technical University of Madrid).

Additional evidence link: <https://suremap.eu>
<https://www.facebook.com/suremapproject>
<https://www.linkedin.com/company/suremap-project>

2. Production of Bio-Diesel from Algae in Selected Mediterranean Countries: Med-Algae Project, Faculty of Science, Alexandria University, Egypt

It is funded by CBCMED-ENPI (CROSS BORDER COOPERATION IN THE MEDITERRANEAN-European Neighborhood and Partnership Instrument)

3. Smart Environmental Management of Climate Change in collaboration with Catania University, Italy (AdapTm-Erasmus project)

The participating countries and Universities: Italy, Greece, Lithuania, Slovenia, Egypt (Alexandria University, Suez Canal University, South Valley University, Arab Academy for Science and Technology and Maritime Transport).

Additional evidence link: <https://emuni.si> › ADAPTM-handout_2_Mod

4. Sustainable Management of Fisheries and Aquaculture Science, in collaboration with University of Aveiro, Portugal (Erasmus+ Project, European Union)

The participating countries and Universities: Portugal (University of Aveiro), Italy, Croatia, Slovenia, Egypt (Alexandria University, Aswan University, Matrouh University, Arab Academy for Science and Technology and Maritime Transport).

Additional evidence link: <http://fishaqu.eu>

5. Alexandria University Center for Maritime Archaeology & Underwater Cultural Heritage was established as a European Union project under the EU-Tempus III Program. The project aimed to create a specialized center for postgraduate studies which provides education and training at different levels in aspects of maritime and underwater archaeology, and to develop a postgraduate Diploma and Master programs in





Maritime Archaeology and Underwater Cultural Heritage, designed and structured in accordance with EU standards.

Additional evidence link: <http://www.cmauch.org/>

<https://alexu.edu.eg/index.php/en/2015-11-24-10-43-20/training>

6. The Renewable Energy Center at Faculty of Agriculture Alexandria University.

- The center along with partner from Greece, Germany, Spain Morocco and Tunisia awarded a Six Framework project (FP6 project) from the European commission to developed Hybrid renewable energy system to supply service for Mediterranean partner countries.
- The center representing AU and Las Palm University in Spain awarded a project from the Spanish cooperation Spanish Agency for International Co-Operation (AECE), in the area of water desalination by Renewable Energy.
- Recently with cooperation with the Faculty of Engineering, the center awarded an STDF project. The project title is "Development of hybrid renewable energy - RO desalination system and minigrids for remote and desert areas in Egypt (HAREDES)".

The Center Goals are to:

- Remove the knowledge barriers against the installation of RE systems in Egypt.
- Enhance the utilization of renewable energy.
- Develop educational and e-learning program about renewable energy.
- Educate students, graduates, public and key stakeholders in Egypt and the Arab world on the various sources of renewable energy and its successful applications.
- Build the infrastructure necessary to develop, install and maintain renewable energy applications.
- Present a show case or a model for the successful utilization of renewable energy in Egypt.
- Continue excellence in all of our educational programs.

7. Fab Lab Project (Alexandria University)

The overall goal of the project is to develop the circular and creative economy model by creating an innovation place equipped with machines Low Tech in Alexandria is hosted by Alexandria University. This place will play a role in creating local dynamism Transversal to become a crossroads between different audiences and actors from different backgrounds. To connect waste collection Plastic and its evaluation. Horizons Solidarités and the University of Corsica, in partnership with their peers in Alexandria, based on their experience in Fab Lab Corte, conduct experiments on recreating value for plastic in Alexandria. The goal is to connect all actors from assembly through training to development and dissemination (Discussed in detail in page 23, 24).

The scope of work in the project

- **Environment, climate, and energy**
- **Education, social aspect, and research**

Research Projects 2019-2023					
	Project Title	Start Year	End Year	Funding Authorities	SDGs
1	Comparative study of the microbial community in colorectal cancer among Egyptian patients	2019	2021	National	Good health and well-being
2	targeting Toll like receptors in oral squamous cell carcinoma as apromising gene cancer therapy	2019	2023	National	Good health and well-being

3	Short-term and long-term trans-generational side effects of Sofosbuvir: Experimental study on female rats	2019	2022	National	
4	Establishment of familial high risk breast cancer screening program	2019	2021	National	Good health and well-being
5	Evaluation of the performance of an innovative microbial fuel cell and its applications in Water and industrial Waste Water desalination	2019	2020	National	Clean water and sanitation
6	The use of real Time PCR (qPCR) for the identification of Potato Viruses, PVY genotypes identification and PVY/host interaction in different Potato Varieties	2019	2021	National	
7	A pre-clinical study for safe sterilization of male stray dogs and field rats using gossypol	2019	2023	National	
8	Relationship between PGPR and plant metal homeostasis in west of Alexandria :A potential role to mop up the heavy metals contaminated sites	2019	2021	National	
9	Neurophysiological, biological and behavioral assessment of efficacy of shields behavioral intervention program in adolescents with ADHD	2019	2022	National	Good health and well-being
10	Childhood Epilepsy: Overcoming Challenges in Diagnosis and Treatment	2019	2023	National	Good health and well-being
11	Enhancing Resource Recovery and Improving Wastewater Reuse Through Synergistic Cooperation between Bioelectrochemical Systems and Forward Osmosis	2019	2024	Egyptian/American	Clean water and sanitation
12	An integrated system for sustainable water management in agricultur	2019	2022	European Union	Climate Action
13	Innovative Sustainable Solutions for broomrapes: Prevention and integrated Pest... management approaches to overcome parasitism in Mediterranean cropping Systems	2019	2023	European Union	Climate Action
14	Agro-ecological genomics and molecular systematics of invasive drosophilid pests and frugivorous insects in Egypt	2019	2021	European Union	Climate Action
15	An Innovative method for producing ultra-high elastic piezoelectric nanofibrous layers using solution-blowing technique	2019	2021	National	Climate Action
16	Molecular epidemiology and antimicrobial resistance mechanisms in staphylococci from various geographic regions in Africa	2019	2023	European Union	Good health and well-being

17	Excellence in the educational process in the light of applications of technology	2020	2022	National	Quality Education
18	Utilization of Egyptian Flax fibre and Flax Cord for High Value Added Technical Applications	2020	2023	National	Responsible consumption and production
19	River and WasteWater Treatment Using Microbial Flocculants	2020	2022	National	Clean water and sanitation
20	Innovative solutions for the Development of Active Intelligent and Sustainable Food Packaging Materials	2020	2023	National	Affordable and Clean Energy
21	Milk and meat safety and greenhouse ags emissions from ruminants fed on organo modified nanoclays as feed additives	2020	2023	National	Climate Action
22	Microbial degradation of phenol containing petroleum effluents and its application in electricity generation	2020	2023	National	Affordable and Clean Energy
23	Development of Antimicrobial Electrospun Polymeric Nanofibers Composites Membrane for Municipal Water Safety : prototype Construction	2020	2022	National	Clean water and sanitation
24	Production and optimization of bio-based nano-graphene for innovative water treatment technology	2020	2021	National	Clean water and sanitation
25	Green Chemistry: Nano-implications from research to industry	2020	2020	National	
26	Radiation protection as a habit for Health Occupational radiation workers	2020	2021	National	Good health and well-being
27	The Safety & Efficacy of Imatinib a Tyrosine Kinase Inhibitor for the Treatment of SARS-COV-2 Induced Pneumonia: A Pilot Study	2020	2022	National	Good health and well-being
28	Synthesis of Antibody -targeted Drug-polymer Conjugates as Nanomedicine product for Cancer Therapy	2020	2023	National	Good health and well-being
29	Design , synthesis, nanoformulation and biological evaluation of novel multitarget anticancer agents	2020	2022	National	Good health and well-being
30	An exploratory survey of COVID-19 humoral immunity among Egyptian general population and healthcare workers	2020	2021	National	Good health and well-being
31	Ethyl Formate as Alternative to Methyl Bromide for Controlling storehouse pests on Dates	2020	2023	National	Climate Action

32	Powerful strategy for treating triple negative breast Cancer: Silencing miR-21 by small interfering RNA loaded-Chitosan Nanoparticles	2020	2022	National	Good health and well-being
33	Economical Production Line of Antimicrobial Nano- treated Face Masks	2020	2021	National	Good health and well-being
34	The potential role of microRNAs conjugated nanoparticles in enhancing cardiac regeneration. In vitro study	2020	2024	National	Good health and well-being
35	Design and Implementation of a Smart and Hybrid Multiport Solid-State Transformer for Marine Applications	2020	2022	National	Industry, Innovation and Infrastructure
36	Combination of Neuroplacement Therapy With PLGA Nanoparticles for Alzheimer's Disease Treatment	2020	2023	National	Good health and well-being
37	Increasing the main active substances in the Wonka plant using CRISPR/Cas9 technology	2020	2023	National	Climate Action
38	Design, Manufacture and Test a Ventilator for Corona Virus Patients in Egypt	2020	2020	National	Good health and well-being
39	Safe, rapid antimicrobial disinfectants for controlling of biofilms formation in dairy industries	2020	2023	National	Decent work and Economic Growth
40	Towards Breeding of Promising Hybrids and Cultivars of some Strategic Vegetables Crops	2020	2023	National	Climate Action
41	Completion of the pre-clinical study file for nanoparticles loaded with berberine as a promising therapeutic route for liver and lung cancer.	2020	2022	National	Good health and well-being
42	Improvement of the Performance of Reverse Osmosis Membranes using Eco-friendly Materials	2020	2022	National	Affordable and Clean Energy
43	A Road Map for Investing Egyptian Research Outputs in The Field of Diagnostic Kits With Economic Values	2020	2020	National	Decent work and Economic Growth
44	Towards the Establishment of a Globally Complaint Egyptian Active Pharmaceutical Ingredient Facility for Critical Diseases	2020	2023	National	Good health and well-being
45	Design, synthesis and evaluation of novel anti- coronavirus agents	2020	2022	National	Good health and well-being
46	Establishing entrepreneurship clubs	2020	2021	National	Decent work and Economic Growth
47	Preclinical evaluation of some sericin nanoparticles as therapeutic materials for and liver cancer.	2020	2023	National	Good health and well-being



48	TICO	2020	2023	National	Partnership for the goals
49	Creating a unit for early diagnosis and follow-up of critical heart conditions	2020	2020	National	Good health and well-being
50	Enhancing the practical applications of some academic courses by producing short educational animated films	2020	2020	National	Quality Education
51	Exploring the desert through an unmanned ground vehicle	2020	2020	National	Climate Action
52	Manufacturing an environmentally friendly robotic submarine	2020	2020	National	Affordable and Clean Energy
53	Precision measurements and digital tests laboratory	2020	2022	National	Good health and well-being
54	Developing the environmental pollutants analysis unit laboratory at the Higher Institute of Public Health	2020	2022	National	Good health and well-being
55	Design and construction of an integrated, smart, electronic irrigation system powered by solar energy	2020	2020	National	Affordable and Clean Energy
56	Design and create an electronic unit to monitor engine performance with the aim of detecting faults, diagnosing them, and offering solutions	2020	2020	National	Decent work and Economic Growth
57	Design and construction of a smart, solar-powered arm to identify and collect ripe agricultural fruits	2020	2020	National	Responsible consumption and production
58	Metabolic footprint of HDV mono-and HBV/HDV super-infections	2020	2020	National	Good health and well-being
59	Development of an Irrigation Management Information and Communication System (IMICS) for the humid tropical region of Kerala and for the dry climate of Egypt as a decision support systems (DSS) tool to improve crop productivity.	2020	2022	National	Climate Action
60	Feasibility Study for Developing Large Scale Narrow Band Gap Polymeric Solar Cell: Technical Challenges and Life Cycle Economic	2020	2023	National	Decent work and Economic Growth
61	Sustainable technologies and methodologies to improve quality and extend product shelf life in the Mediterranean agro-food supply chain	2020	2024	National	Decent work and Economic Growth
62	Sustainable Resource Management Programme to solve Desert-ed challenges	2020	2023	European Union	Climate Action

63	knowledge exchange in Sustainable Fisheries Management and Aquaculture in the Mediterranean region /FishAQu	2020	2023	European Union	Partnership for the goals
64	Spatial Data Infrastructures and Earth Observation Education and Training for North-Africa	2020	2023	European Union	
65	New Professional Diploma in Plant Clinic and Phytosanitary Technologies	2020	2023	European Union	Climate Action
66	Tracing Rice and Valorizing Side Streams along Mediterranean block chain	2020	2023	European Union	Decent work and Economic Growth
67	Reframing Heritage Education in Egypt / Re-HeED	2020	2023	European Union	Quality Education
68	Knowledge Triangle, Innovation : Reinforcing of Education- Research II- Health & Medical Links	2021	2023	European Union	Quality Education
69	A novel combined approach for Poultry slaughterhouse wastewater treatment: prototype design and development	2021	2024	National	Clean water and sanitation
70	Safety and Therapeutic efficacy of Cyclosporine plus standard of care treatment on ARDS in COVID-19 patients at Alexandria university hospitals in 2020: A comparative	2021	2022	National	Good health and well-being
71	Alexandria University Center of Excellence for Smart Urban Governance (AIE XU-COE-SUG)	2021	2022	National	Decent work and Economic Growth
72	University Community Urban Lab for Interactive Learning and Innovative Societal Solutions (UC-URBAN LAB)	2021	2024	National	Decent work and Economic Growth
73	Real time data monitoring system of Textile manufacturing processes	2021	2023	National	Decent work and Economic Growth
74	Agricultural sustainability and water reuse in Egypt : innovative wastewater treatment and soil health	2021	2024	National	Clean water and sanitation
75	Development of Herbal Extraction Unit for the Production of Standardized Herbal Products for Human Use	2021	2023	National	Good health and well-being
76	Pesticide Residues Unit Laboratory - Central Laboratory Environmental Pollutants Desalination Unit at the Higher Institute of Public Health	2021	2022	National	Good health and well-being
77	Developing a smart irrigation system to evaluate and monitor the quality of the green area and maximize the use of available water resources	2021	2021	National	Climate Action
78	Design and implementation of a self-propelled unit for landscaping maintenance (mowing and aeration)	2021	2021	National	Climate Action

79	Developing students' skills in using regenerative medicine and tissue engineering to treat some bone injuries in the veterinary field	2021	2021	National	
80	Creating pictorial paintings and products with healing powers inspired by Bach flowers to treat post-traumatic stress disorder associated with the Corona pandemic to serve small projects.	2021	2021	National	Responsible consumption and production
81	Sustainable Asphalt Mixtures Using Warm Asphalt Additives and Steel Slag for Egyptian Environmental Condition	2021	2023	National	Affordable and Clean Energy
82	Support and Qualifying of Educational Programs for International Accreditation in Higher Education Institutions	2021	2023	National	Quality Education
83	Using Mixed-mode ventilation System for improving Energy Efficiency in Office Buildings	2021	2023	National	Decent work and Economic Growth
84	Celecoxib-Based Fused Ring Derivatives: Therapeutic and Molecular Roles in Induced Liver Injury in Experimental Animals	2021	2023	National	
85	CRISPR/Cas-mediated Genetic Modulation of PDL-1 and KRAS in Cancer Cells	2021	2023	National	Good health and well-being
86	Autophagy and Kinase Inhibitors as a Potential Combined Therapy for Cancer	2021	2023	National	Good health and well-being
87	Detection of oral microbiota population differences' in oral squamous cell carcinoma versus premalignant lesions	2021	2023	National	Good health and well-being
88	Ex vivo expansion of human hematopoietic stem cells	2021	2023	National	Good health and well-being
89	Anti-obesity potential of Superparamagnetic iron oxide nanoparticles in experimental model of obesity	2021	2022	National	Good health and well-being
90	Growth Factor-Laden Hydrogel For Regenerative Endodontic Applications	2021	2024	National	
91	Insect-based natural compounds: An upcoming therapeutic approach to target human lung cancer	2021	2024	National	Good health and well-being
92	Synthesis, characterization, and computational studies on new synthesized azo-based ligands and their metal complexes	2021	2022	National	
93	TLR-4/Wnt correlation as a new immunotherapeutic strategy in Oral Squamous cell carcinoma	2021	2023	National	Good health and well-being



94	Comparing silver diamine fluoride, sodium fluoride varnish and behavior modification in the prevention of early childhood caries: a field trial	2021	2023	National	Good health and well-being
95	An Innovative formula of Rice Straw to Control Corrosion in Various Media	2021	2023	National	Industry, Innovation and Infrastructure
96	Beneficial role of insect-based therapy to target liver tumor	2021	2024	National	Good health and well-being
97	The Potential role of Nanoparticle-Based Delivery of microRNA fortargeted Oral squamous cell carcinoma gene therapy	2021	2023	National	Good health and well-being
98	Evaluation the Role of Exosomes in Tumorigenic behavior of Triple Negative Breast Cancer: Chemoresistance, the Pre-Metastatic Niche and Metastasis	2021	2024	National	Good health and well-being
99	Towards a green Economy Farm: Innovative Solar Collector for Biochar Production from Agricultural & Food Industry Wastes, Power Generation, and Crops Drying	2021	2023	National	Affordable and Clean Energy
100	Reverse Engineering Lab for Spare Parts (RELSS)	2021	2024	National	
101	Wastewater Treatment by Integrated Green Coagulation And Membrane Technology for Reuse	2021	2024	National	Clean water and sanitation
102	Maternal and fetalprogramming in preeclamptic rats modulates cardiovascular and renal manifestations of endotoxemia	2021	2024	National	
103	Design and Manufacturing of Electric Car National Consortium	2021	2023	National	Affordable and Clean Energy
104	A project to develop systems for measuring and evaluating the Faculty of Tourism and Hotels	2021	2023	National	Quality Education
105	Digital transformation in measurement and evaluation systems	2021	2023	National	Quality Education
106	A project to develop measurement and evaluation systems in Egyptian universities	2021	2023	National	Quality Education
107	ImPUISe	2021	2024	European Union	
108	Integrating biomarkers and healthcare solutions to deliver personalized medicine and intervention in the home and community for the upper leg of children with stroke-related hemiplegia.	2021	2024	National	Good health and well-being

109	NEXUS-NESS	2022	2025	European Union	Climate Action
110	Use of immunopeptidomics to inform development of the next generation of tropical theileriosis vaccines	2021	2022	European Union	Good health and well-being
111	PiezoACT membranes : Piezo-Active Nanofibrous Self- decontamination Facemasks/ Filters using Solution Blow Spinning in Egypt	2022	2023	European Union	
112	Documentation of Wild Egyptian Flora using DNA-Barcoding Technology	2022	2024	National	Climate Action
113	Accelerating the Impacts of Solar Driven MOF Adsorption System for Water Desalination and Cooling in Egypt	2022	2024	European Union	Climate Action
114	Engineering microbial cells as a platform for producing valuable terpenes	2022	2024	National	Responsible consumption and production
115	Internally synthesized rumen yeasts mixed with organically modified montmorillonite in nano form as new food additives for ruminants.	2022	2024	National	Good health and well-being
116	Designing an industrial prototype for innovating microbial -based feed additives using nano-encapsulation technology for improving performance and immunity of farm animals	2022	2024	National	Decent work and Economic Growth
117	EGYPTIAN CANCER RESEARCH NETWORK	2022	2024	National	Good health and well-being
118	Incubator for Pedagogical Innovation and applications serving Learning Objectives and Teaching- PILOT Incubator	2022	2025	National	Quality Education
119	Immune stimulation, gene expression and disease resistance in Nile tilapia, Oreochromis niloticus, by marine extremophilic bacteria	2022	2023	National	
120	Smart thermal and photo label for monitoring consumables Safety	2022	2025	National	Responsible consumption and production
121	Experimental Evaluation of PCM Melting using different tube arrangements in a shell and tube latent heat thermal storage unit	2022	2023	National	Affordable and Clean Energy
122	Topical Selenium Hydrogel asa Treatment for Oral Ulcerative lesions	2022	2023	National	Good health and well-being
123	Monitoring and Management of Harmful Algal Blooms in northern Coastal Waters of Egypt for ensuring food safety	2022	2024	National	

124	Inflammatory mechanisms underlying the comorbidity between at deficit/hyperactivity disorder(ADHD) and plain sensitization	2022	2024	National	Good health and well-being
125	The second part of the Egyptian Wild Plant Encyclopedia	2022	2024	National	Climate Action
126	Potential of Rice Husk and Sugarcane Bagasse Biochars Supplemented to Acacia and Leucaena Based Diet on Nutrients Digestibility and Greenhouse Gas Emission From Dairy Manure	2022	2027	European Union	Good health and well-being
127	The impact of gut microbiome-guided dietary intervention using Mediterranean gluten -free diet on clinical profile and quality of life among a sample of relapsing remitting multiple sclerosis: A prospective study	2022	2024	National	Good health and well-being
128	L'éco-Citoyenneté en Egypte : sensibilisation aux ODO, transmission d'expérience et perspectives de développement	2022	2023	National	Sustainable Cities and Communities
129	Online Pharmacogenomics and Personalized Medicine Postgraduate Program-oppm	2022	2025	European Union	Good health and well-being
130	Hybrid reporter nanoconjugates as next generation cancer theranostics	2022	2025	National	Good health and well-being
131	Advancing non -conventional Water management for innovative climate-resilient water governance in the Mediterranean Area (AG-WaMED)	2022	2025	National	Clean water and sanitation
132	Downscaling atmospheric components over Egypt under different future climate change scenarios (2065-2100)	2022	2024	National	Climate Action
133	Construction of a Self-Charging Unit for Collecting Wasted Mechanical Energy from Basic Human Motion	2023	2025	National	Affordable and Clean Energy
134	Preparation of NP-nucleic acid insecticides and its application in pest control	2023	2025	National	Climate Action
135	Electronic Dental Systems for detection and surveillance of oral diseases in Egypt (EDS-EGY)	2023	2025	National	Good health and well-being
136	Universities resilient to climate change: Public awareness, sustainable education and technology development as principal strategies towards net Zero Carbon Campus	2023	2024	European Union	Climate Action

137	AI-Based Tool for Automatic Segmentation of Dental Pulp after Therapy and Tissue Regeneration	2023	2023	National	Good health and well-being
138	Microbial-augmented biochar to control soil-borne plant diseases and mitigate climate change	2023	2023	National	Climate Action
139	Water desalination and food processing techniques at Alexandria University	2023	2024	National	Clean water and sanitation
140	Selection and production of starter cultures for the manufacture of Ras, Talaga and Domiatti cheeses and acceleration of Ras cheese ripening	2023	2025	National	
141	Manufacture of Ras Cheese using starter culture With the best salting method	2023	2023	National	Industry, Innovation and Infrastructure
142	Production of a natural preservative for milk and study of its effect on milk components	2023	2025	National	Industry, Innovation and Infrastructure
143	The future vision of green hydrogen in Egypt: a technical and economic study	2023	2024	National	Decent work and Economic Growth
144	Unraveling the possible mechanisms of muscle regeneration in statin-induced-myopathy in rats: in-vivo and in-vitro studies aided with artificial intelligence	2023	2025	National	Good health and well-being
145	Minimal Residual Disease Assessment in Multiple Myeloma by Next-Generation Sequencing	2023	2025	National	Good health and well-being
146	Study of the neuroprotective effects of stereostatic transplanted non-tumorigenic MUSE cells in a rat model of insecticides induced Parkinson disease	2023	2025	National	Good health and well-being
147	Novel PPAR-based molecular platforms for the treatment of cognitive dysfunction and metabolic impairment: When Alzheimer's constitutes type 3 diabetes	2023	2025	National	Good health and well-being
148	Tumor-educated platelet RNAs as potential biomarkers for diagnosis of oral squamous cell carcinoma	2023	2025	National	Good health and well-being
149	Digital Twin Based Information Systems in Education 4.0: The Case of Alexandria University New Abis Campus (DTE4)	2023	2025	National	Quality Education
150	Design and Fabrication of Biodiesel Burner test rig	2023	2025	National	Industry, Innovation and Infrastructure

151	New Framework for Damage detection in new Egyptian smart cities based on self-powered structural health monitoring technique integrated with the developer	2023	2025	National	Affordable and Clean Energy
152	Agronomic characterization and genetic diversity of Quinoa genotypes under heat and drought stresses in North-West Egypt	2023	2025	National	Climate Action
153	Effect of some bio fertilizers, virmi compost and Salicylic acid on citrus rootstock salinity tolerance	2023	2025	National	Climate Action
154	Rivaroxaban, Enoxaparin and clopidogrel structural ameliorate metabolic and manifestations of NASH in rats via anti-anti-inflammatory coagulation and mechanisms	2023	2025	National	
155	The Neuroprotective Effects of Novel Diabetes: Antidiabetics in Type 2 Possible Mechanism for Halting Cognitive Deterioration	2023	2025	National	Good health and well-being
156	Clinical Evaluation and Antimicrobial Chemo- Effect of Papain Based Mechanical Caries Removal Agents in Young Permanent Molars (A (Randomized Controlled Clinical Trial	2023	2026	National	Good health and well-being
157	Targeted Muti-functioning RNA-based approach for nanoparticles as a new treatment of chronic kidney disease	2023	2026	National	Good health and well-being
158	IN Vitro Meat Production Utilizing Stem and Climate- Cells as a Sustainable Friendly Alternative Source of Protein	2023	2025	National	Zero Hunger
159	sulfolobus solfataricus L-Asparaginase: Escherichia coli, expression in purification, biochemical characterization and cytotoxicity assessment	2023	2025	National	Good health and well-being
160	Environmentally friendly methods for termite and detecting and controlling wood borer infestations in Alexandria Governorate	2023	2026	National	Decent work and Economic Growth
161	Preparation of prototype of Saccharomyces cerevisiae nano bentonite composite as a novel feed supplement to mitigate enteric gases greenhouse	2023	2025	National	Climate Action
162	Screening for some mutations in the PAH Egyptian gene in a group of phenylketonuria patients attending Alexandria University Hospital	2023	2025	National	Good health and well-being

163	Potential regenerative capacity of non-invitro model tumorigenic muse cells on of cardiac ischemic reperfusion injury	2023	2026	National	Good health and well-being
164	Cell-free DNA genetic variants in triple-using next- negative breast cancer generation sequencing	2023	2026	National	Good health and well-being
165	Production, modification and new from prospects of biochar derived biomass waste	2023	2026	National	Affordable and Clean Energy
166	The prospective ameliorative effect of and melatonin zinc oxide nanoparticles against cadmium oxide nanoparticles-integrated induced toxicity: an biomarker-based approach for model ecotoxicological evaluation in a organism Blaps polycresta	2023	2026	National	Climate Action
167	Microbial technology as a bioremediation tool for heavy metals removal from industrial wastewater through proteomic and approaches nanotechnological	2023	2025	National	Clean water and sanitation
168	The potential of using some Mint and effective beta Rosemary extracts as lactamase inhibitors	2023	2025	National	Good health and well-being
169	Epigenetic alterations of enhancer of Stem Cell- zeste homolog Mesenchymal Derived Small Extracellular Vesicles: A Pyroptosis signature Novel Approach for in Liver Cancer	2023	2025	National	Good health and well-being
170	Impact of Silicon Nanoparticles on Physiological Performance and Molecular Characterization of Two Cotton Cultivars Under Different Soil Moisture Levels	2023	2026	National	Decent work and Economic Growth
171	Studies on human placental extract as a against diabetes- therapeutic promise mediated neurodegeneration in experimental rats	2023	2026	National	
172	Triazoles conjugates -1,2,3 nanoformulae for multidrug resistant bacteria treatment	2023	2025	National	Good health and well-being
173	The potential effect of Persea americana modulation of peel extract on the Tryptophan dioxygenase signaling Liver- pathway in Non Alcoholic Fatty induced rats	2023	2025	National	
174	Actinomycetes cell mass as a non-traditional feed ingredient in aquaculture fish diets	2023	2025	National	Decent work and Economic Growth

175	Avocado peel methanolic extract could PI3K/AKT/SIRT-1/HIF1 modulate the signaling pathway and treat high-fat fibrosis in rats diet-induced liver	2023	2026	National	
176	Experimental tailoring of MOF/BiOX nanocomposite of improved photocatalytic water decontamination supported with DFT computations	2023	2026	National	Clean water and sanitation
177	Applied Coordination Chemistry of Containing Biologically Active Ligands Chalcogenide Atoms	2023	2026	National	
178	Complete preclinical profile of Salix characterized nanoformulation of mucronate active fraction as anti-hepatocellular carcinoma	2023	2026	National	Good health and well-being
179	Effect of Momordica Charantia Seeds on Hepatotoxicity in Male Lead Induced Albino Rats	2023	2026	National	
180	Marine Microbioll - asparaginqse Chara Molecular and Biochemistry characterization and Possible applications as an anti- Cancer dryg	2023	2025	National	Good health and well-being
181	Water-Energy - Development of Novel Food - Ecosystem (WEFE) Mini -complex Standalone Based on a	2023	2026	National	Affordable and Clean Energy

Total Research Funds (in US Dollars)

Total research fund in 2019 = 34,581,301 US Dollars

Total research fund in 2020 = 5,076,909 US Dollars

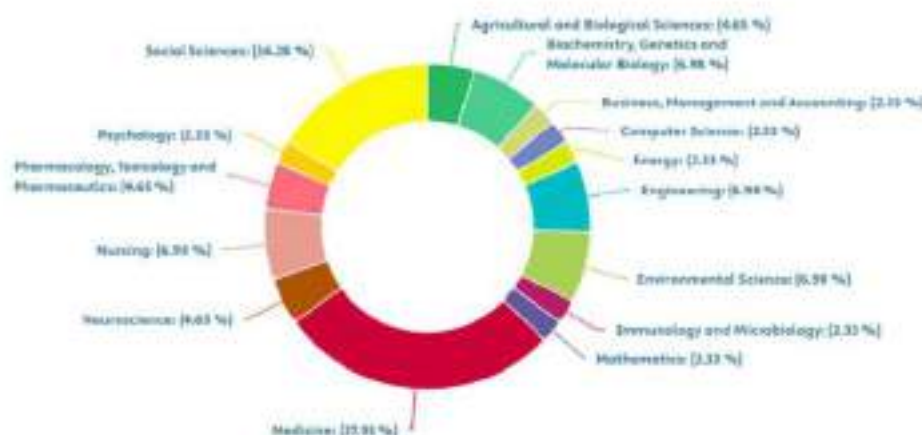
Total research fund in 2021 = 3,043,755 US Dollars

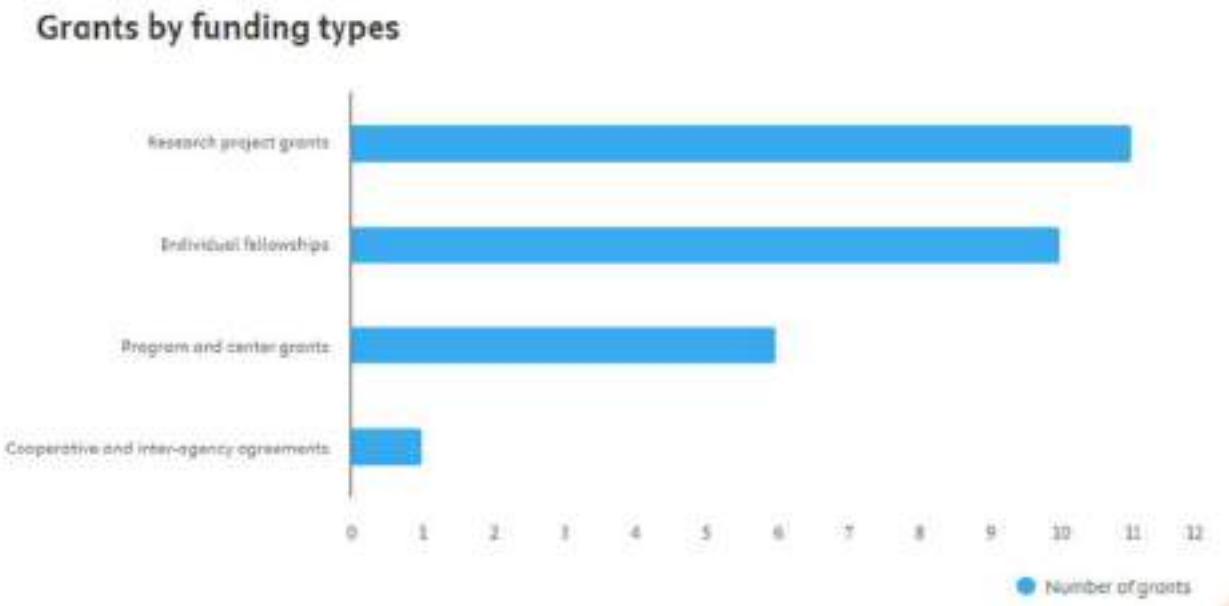
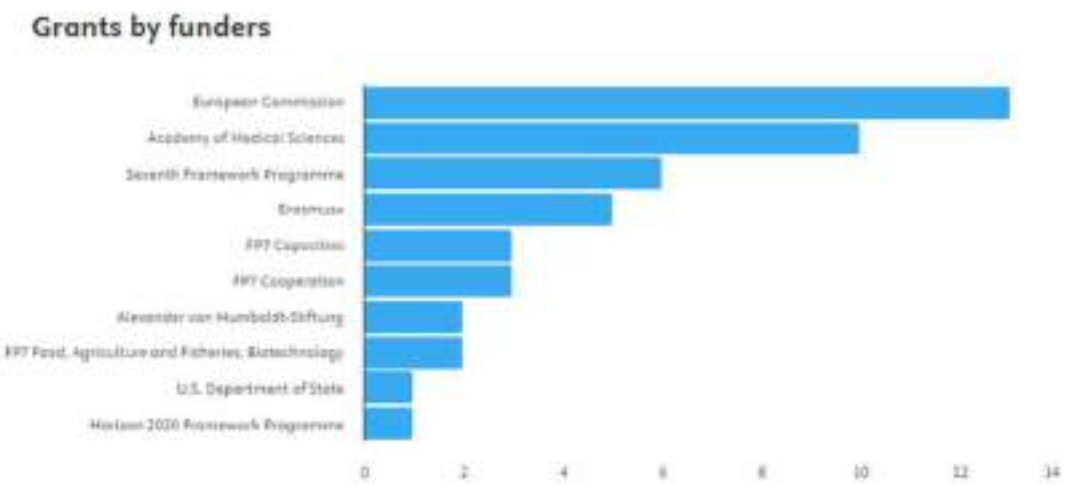
Total research fund in 2022 = 2,564,363 US Dollars

The averaged annum last 3 years of research fund = 3,561,676 US Dollars

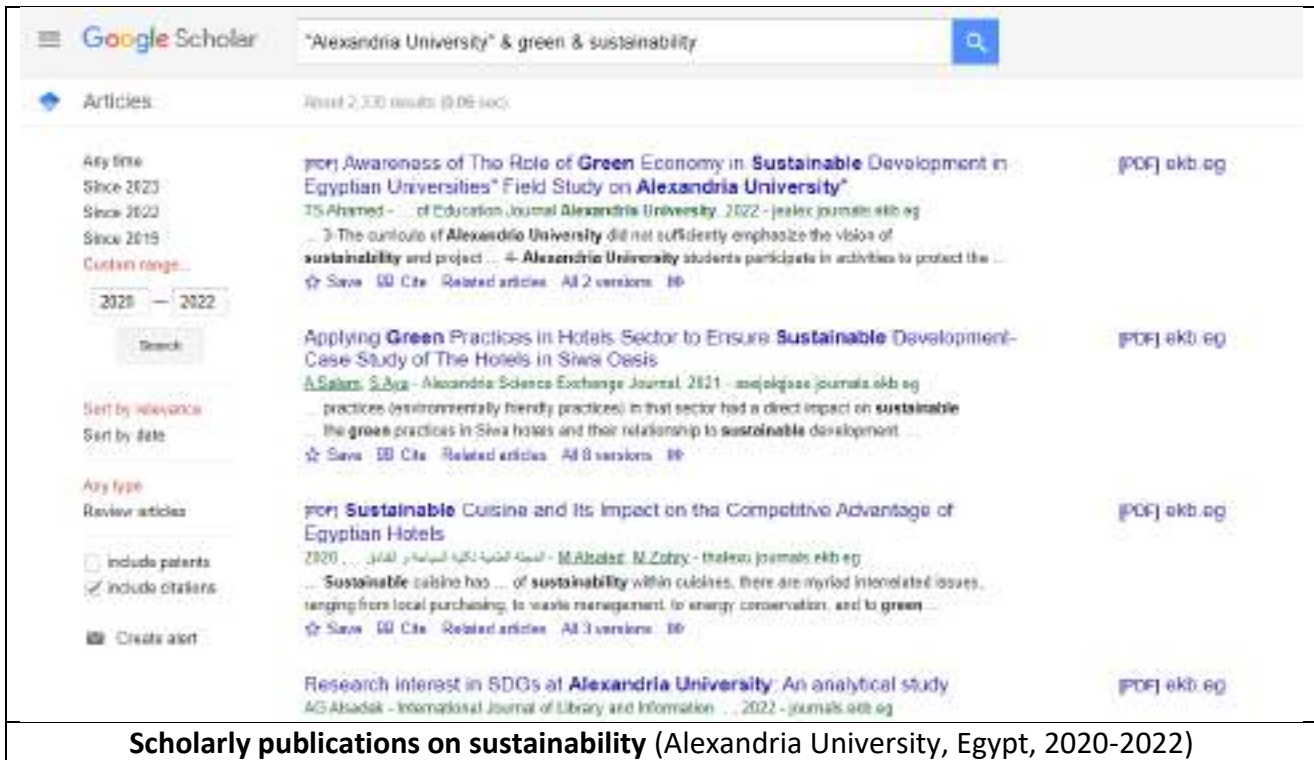
International Grants (Alexandria University, 2016-2023)

Grants by subject areas





Number of scholarly publications on sustainability



Scholarly publications on sustainability (Alexandria University, Egypt, 2020-2022)

Description:

Example of events **scholarly publications on sustainability** in the academic year 2020-2022. A total average per annum over the last 3 years of **2330 publications**

Number of Events Related to Sustainability



Number of events related to environment and sustainability hosted or organized by the Alexandria University in academic year 2022-2023 are more than **247 events**.

Examples of some activities with description and photos:



The opening of the activities of the project “Integrating Sustainable Development Goals into Universities for Better Management of Climate Change,” which is funded by the European Union within the Erasmus Plus program (2021-2024) with a budget of 15 million pounds, via the electronic platform, and its work continued over two days. Alexandria University is leading the project, which includes 7 other partners, from the European Union, namely the University of Aveiro in Portugal, the University of Sassari in Italy, the University of Valencia in Spain, the Euro-Mediterranean University from Slovenia, and from Egypt the Arab Academy for Science, Technology and Maritime Transport, Zewail University, and Heliopolis University. The project aims to enhance the capabilities of Egyptian universities in terms of raising awareness of sustainable development goals for university members, integrating sustainable development goals into strategic plans and university policies, and transforming universities into environmentally sustainable universities.



The First International Symposium on Sustainable Water Solutions in Alexandria, organized by the Center for Water Excellence at Alexandria University (funded by the United States Agency for International Development in Cairo, USAID, and in partnership with a coalition of Egyptian and American universities with the aim of supporting learning and research in the field of water).



In the frame of the webinar series, the Center of Excellence for Water organized the twenty first webinar with California Santa Cruz University and Zagazig, entitled: "Water Energy Food Nexus and its connectivity to SDGs"



Distinguished participation of Alexandria University in COP27 Activities. Within the activities of the COP27 Summit for Climate Change, the Alexandria University exhibition in the Green Innovation Pavilion in Sharm El-Sheikh, witnessed the influx of a number of dignitaries, led by ministers, officials, presidents of Egyptian universities, foreign delegations participating in the conference, in addition to students from Arab and foreign countries, to learn about the contributions of Alexandria University in climate issues and how to confront the negative effects of climate change.



Seminar on "Management, Sustainability and Strategic Planning of the Center of Excellence for Water" at Faculty of Engineering. The project of the Water Excellence Center at Alexandria University is working to find solutions to the expected water problems in light of population growth and the serious challenges we are currently facing in Egypt.



Discussing ways of cooperation between Alexandria University and the Vice President of the Climate Group at the University of Cambridge in Britain and the official for international cooperation in the COP26 university network on the issue of climate change and ways to enhance academic and research relations and aspects of joint cooperation in preparation for the COP27 conference. The attendees gave a presentation on

Alexandria University's projects in the field of environmental sustainability in preparation for the COP27 climate conference, and included projects on the production of green and grey hydrogen, the design and manufacture of electric vehicles, the establishment of the Alexandria University Company for Energy and Water Services, and the establishment of an electronic components manufacturing center, in addition to preparing studies on diversifying energy sources. Egypt's role as a regional energy center and the contributions of the Suez Canal to reducing carbon emissions at the international level.



The Center for Educational Innovations and Distance Learning organizes, on the 24th and 25th of October 2022, its fourth international conference APITEL 2022 in a special version to launch the Pilot business incubator, under the title "New Technologies and Trends in Higher Education: Sustainability and Entrepreneurship."



Alexandria University held a symposium on "Climate Change and Green Transformation: The Vision of Alexandria University with several universities and scientific bodies to participate in the COP27 climate conference. These projects include the use of green hydrogen and green ammonia in the fertilizer industry in cooperation with the Egyptian Chemical Industries Company (Kima), the establishment of the Alexandria University Company for Energy and Water Services, the localization of the electric car industry inside Egypt through the design and manufacture of the electric bus and the electric car, the role of the Suez Canal in reducing carbon emissions on the global level, the establishment of the Alexandria University Centre for the blue-green economy, the role of Egypt as a regional centre for Energy, the production of green and grey hydrogen, the establishment of the Electronic Components Manufacturing Centre, in addition to the establishment of the Alexandria University Centre for Sustainable Development, with the aim of achieving

sustainable development goals within the Alexandria University campus in order to turn it into a green university.



The first activity of the Greener Blue Economy Center at Alexandria University, a workshop held under the title "Sustainable Blue Economy Issues in the Mediterranean Basin Countries", in the Conference Hall at the Faculty of Commerce, generating electricity from water energy, mining activities in the seas and oceans, marine tourism, fishing activities, extracting raw materials from the sea, and other forms of economic activity mainly related water resources.



Faculty of Pharmacy, in cooperation with the students of the Scientific Society of Faculty of Pharmacy, organized a sports marathon for walking and cycling under the title "Running for Green" within the framework of the preparations of Faculty of Pharmacy and University of Alexandria for the Climate Change Conference COP27 which was held in Sharm el-Sheikh in November 2022.



The opening of the international conference organized by the Faculty of Agriculture, Alexandria University, under the title "Sustainable Management of Smart Animal Production Farms." Its activities continued over two days, during which a group of scientists and specialists discussed ways to reach a common vision and solutions for the development of livestock, poultry and fisheries in Egypt and draw a clear, integrated vision, to confront the challenges that hinder the advancement of livestock in Egypt.



A cooperation agreement between Alexandria University and the Egyptian Chamber of Commerce in Alexandria to establish a solar energy station at the Faculty of Engineering. Under this agreement, the Faculty of Engineering - Alexandria University operates the station with solar energy within the framework of the MAIA-TAQA and SOLE projects funded by the European Union, within the framework of the Mediterranean Basin Cross-Border Cooperation Program EU ENI CBC Med.

It is worth noting that the “SOL” project, funded by the European Union, supports the energy rehabilitation of public buildings in an effective and economical manner, and ensures the consumption of clean, low-cost energy.



Faculty of Science’s tenth celebration of World Earth Day, which was held at the college building in Shatby, under the title “Extreme climate phenomena and the challenges of sustainable development.” On the sidelines of the celebration, a special exhibition was held for the college’s departments and programs and units of a special nature, as well as exhibitions for participating companies, school exhibitions, and the Children’s University.



Alexandria University hosted the third meeting of the Steering Committee of the Comprehensive and Sustainable Development of the Tomato Value Chain Project, as the host of the Tomato Value Chain Educational Service Center (TLSC).



Alexandria University participated in the Egyptian Public Universities Activities and Events Forum to Confront Climate Change 2022, during the period (September 22-23, 2022).



The preparatory webinar for the COP28 Climate Conference, which was organized by the International Committee for the Development of Dry Lands, the Regional Action for Climate Change Foundation in Japan, the “Nizami Ganjavi” International Centre, and the African Organization for Young Leaders, at the Conference Centre of the Faculty of Medicine. The webinar discussed many important topics, including climate change and dry lands, food security, biodiversity, energy and sustainable development, political will and human solidarity needed for change, adaptation, African youth's view of climate change, the Egyptian perspective on climate change, and funding requirements.



The Faculty of Education hosted the educational symposium on “Community Awareness of the Climate Change Issue, and its Health, Environmental and Economic Impacts”



Cooperation protocol between Alexandria University Engineering Centre and the Holding Company for Water and Wastewater, providing consulting services for Rainwater Management Integrated Strategy Project in Alexandria.




A cycling race and marathon events were launched as part of the Scientific Conference on Climate Change and Sports, organized by the Faculty of Science and the Faculty of Physical Education in Abu Qir from 27-29 October 2022.



The Higher Institute of Public Health organized a celebration on the occasion of World Environment Day under the title (Our Land...Our Future). During the celebration, a number of lectures was discussed, such as clean technology, industrial pollutants and methods of disposal, climate literacy, disease vectors, analysis methods for environmental pollutants, and the activities of the Institute's units such as (the Occupational Health and Air Pollution Research and Studies Unit, the Environmental Health Research and Studies Unit, and the Central Laboratory Unit). As well as how to develop clean energy alternatives, such as "preparing for green, green cities, developing smart environmental food and agricultural systems such as phytoremediation, and the role of the individual and society in improving air quality."



The educational seminar organized by the university, in cooperation with the Youth Coordination of Political Parties and Politicians, under the title "Climate Action Path from Stockholm to Sharm el-Sheikh" and a panel discussion on the national dialogue. The meeting witnessed various discussions among the attendees that dealt with the economic, social and cultural challenges facing the country, which included issues of health, education, infrastructure, environment, psychological support, high prices, ethical and behavioral phenomena and how to confront them and provide unconventional solutions in light of the available resources.



The collage features several posters and charts:

- Top Header:** "الظواهر المناخية المتطرفة وتحديات التنمية المستدامة" (Climate extremes and sustainable development challenges) with Alexandria University and GreenMetric logos.
- Left Column:** A vertical strip with icons for "Wastewater Treatment" and "Wastewater Treatment" with a flowchart diagram.
- Middle-Right Column:** A large poster titled "التعاون بين القسم و المصنعة" (Cooperation between the department and industry) featuring a pie chart and text. Text includes: "في عام 2021 بلغ لشرف قسم الكيمياء - كلية العلوم 324 بحثا في المجلات الدولية عن عدد الاستشارات 1715 معامل فريق 20".
- Bottom-Left:** Promotional posters for "ACS LEADERSHIP INSTITUTE IN ATLANTA, GA", "ACS PROGRAM IN A BOX", and "CHEMISTRY CAFE".
- Bottom-Right:** A poster with a central recycling symbol and various icons related to sustainability and chemistry.

Examples of a poster presented in Earth Day event titled "Climate extremes and sustainable development challenges" (Alexandria University, Egypt)



Number of activities organized by student organizations related to sustainability per year

There are 28 students' organizations related to sustainability which organized and participated in many activities.

The number of students' events related to sustainability is more than **70 events** in 2022 to 2023.

Examples of some activities with description and photos:



The Mind Cloud team (Department of Electrical Engineering- Faculty of Engineering- Alexandria University) won third place in the Unmanned Ground Vehicles Competition (UGVC), which is part of the international Unmanned System Innovation Competition (UMSIC), which was hosted by the Military Technical College and in which many international and local teams competed.



The Faculty of Science, Alexandria University, through the Departments of Geology and Zoology, participated in the “Science Celebration” for the year 2023, which was organized by the Planetarium Scientific Center at the Library of Alexandria in its seventeenth session in a row under the title “Journey to the Center of the Earth”, on September 20 and 21, 2023 in the Square of Civilizations at Bibliotheca Alexandrina.



the Faculty of Engineering team (EFFCT won first place in the “Egypt Summit for Community Investment Projects” competition, launched by the Innovators and Talents Fund, in cooperation with the Hult Prize International Competition Authority. The competition involves student teams at different universities in Egypt, who have ideas and prototypes for community projects in the field of clothing and fashion, which can be turned into startups.



Snapshots from the sessions for people of determination at the Taha Hussein Center at the Faculty of Arts during celebrations of the Glorious October War.



Chemistry info desk about ACS Alexandria University Student Chapter showing some chemical experiments to attract people and let them know how exciting and fascinating is chemistry. Some of the experiments were Chemical chameleon, artificial silk, Carbon dioxide extinguisher, Elephant toothpaste, and Non-Newtonian Fluid using corn starch.



A field visit to the Alexandria Mineral Oils Company (AMOC) for fourth-level students in the programs IMAC Faculty of Science Alexandria University in order to activate the methods and patterns of teaching and learning for the program and shed light on the applied and practical side of what was studied in the theoretical lectures for the detergents course, which included: The trip visited the company's production units, the diesel complex and the lubricant oil production complex, and learned about the hydrogen and nitrogen production units, boilers, and treated water used to cool products and equipment.



Student Mahmoud Walid Abdel Fattah, enrolled in the first level - Petroleum Geology Program at the Faculty of Science, Alexandria University - won first place and the gold medal in the African Romanian Wrestling Championship for Youth in Tunisia, for the less than 82 kg competition.



ACS LEADERSHIP SUMMIT & ABCChem CONFERENCE IN MARRAKECH, MOROCCO 12 - 16 December 2022. Marrakech leadership summit organized for International ACS Chapters Leaders to discuss various topics on chapter management, challenges, and making collaborations for achieving mutual goals.



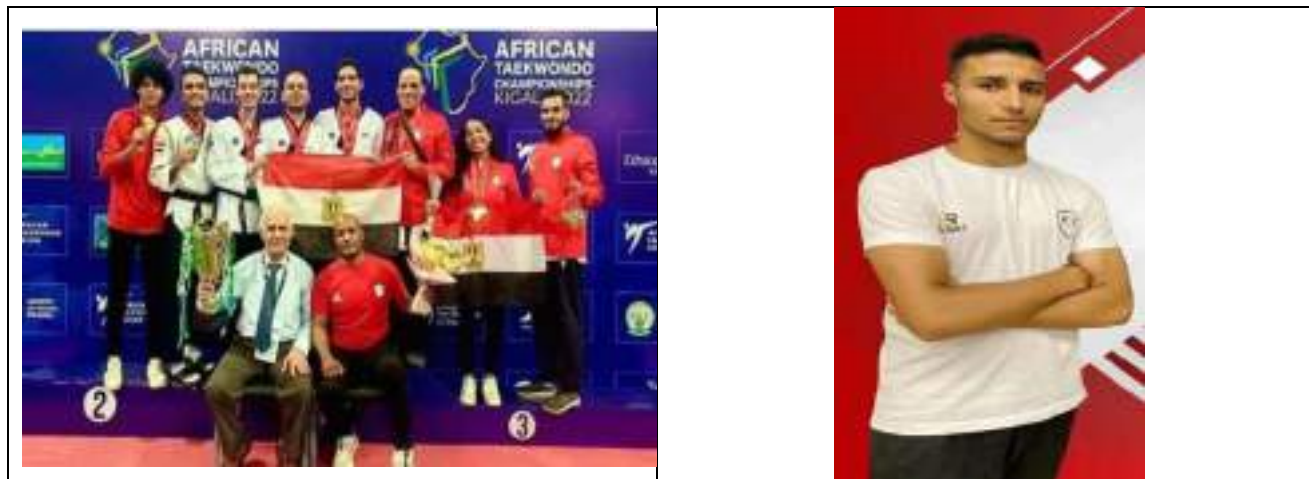
In the 10th Creativity Festival 2022 for the youth of universities, higher institutes, and governmental and private academies, with the participation of 153 governmental and private universities and institutes across the Republic students of Alexandria University obtained first place in the field of scientific innovations _ROV, an automated submarine project dedicated to conservation on marine life and surrounding life, and first place in the field of solo singing, Alexandria University also won second place in the field of scientific innovations - the Internet of Things and artificial intelligence - the truck towing system project, and also second place in each of group singing, cultural league, and non-specialized correspondent.



Students of Alexandria university achieved Advanced Rankings in the 13th Universities Youth Week competitions, which was held at Helwan University from the 8th until the 14th of September, with the participation of 3500 male and female students from 44 public, private and national universities. The competition was held under the slogan “The New Republic: Homeland Dream.



Alexandria University Wins First Place in Innovations & Patent Index Ranking and Silver Medal in New Energy Projects at 7th Cairo International Exhibition for Innovation Fair 2023



Ahmed Hassan Abu Shady, in the preparatory group at the Faculty of Engineering and a member of the Sports Committee of the Student Union wins the gold medal in the individual freestyle taekwondo competition at the African Pumza Championship, which was held on July 13 and 14-2023 in the Rwandan capital, Kigali.



A field visit to the drinking water station in Alexandria on May 2, 2023, for fourth-level students - special chemistry Faculty of Science Alexandria University. The trip included a visit to the entrance hall for turbid water that enters the station through the Mahmoudiyah or Nubariya canal and passing it through a network or screen to get rid of the large natural pollutants present in river water, such as wood and plants, and a visit to the galleries where heavy materials are deposited at the bottom in order to remove them, and the semi-barrier that is used. Getting rid of suspended materials by helping them settle to the bottom of the chute and visiting sand filters, where the water passes through gravel, gravel and sand, which helps filter out any remaining particles, chlorine amber and the method of injecting it into the water, where chlorine is used because of its ability to kill bacteria and disease-causing organisms. They also visited laboratories and viewed the equipment used in water analysis.



Faculty of Engineering team won the second place in the National Initiative for Smart Green Projects, startups category, with their "environmentally friendly robot" project, which was implemented by 15 students from the Faculty of Engineering during the COP27 Climate Summit.

Faculty of Engineering Team Develops Sea-Cleaning Robot, an environmentally friendly vehicle operated using electricity and solar energy without any kind of emissions, in order to remove waste and oils from the seas and compile important statistics on the extent of the impact of climate change on the marine life and environment, such as coral reefs and fish. The project aims to protect the environment from waste, explaining that the goal is to clean ports and coasts polluted by any form of waste, especially plastic, to preserve the environment and marine creatures, stressing that the robot is capable of diving under water.



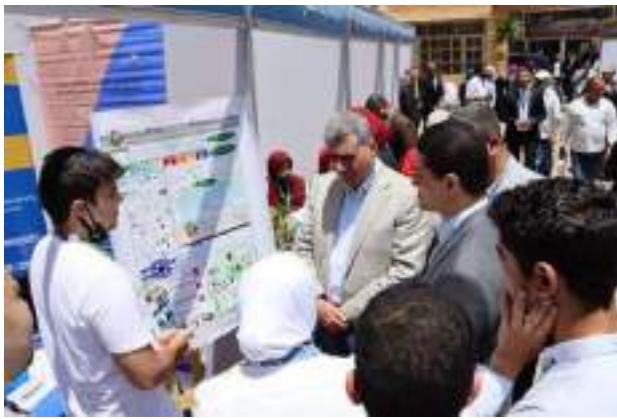
The launch of the sports marathon "running and cycling" from the Camp Shizar area to the Department of Marine Sciences - Faculty of Science, Alexandria University, Anfushi. This comes within the activities of the Scientific Conference on Climate Change and Sports, which was held in the period from 27 to 29 October 2022 in cooperation between the Faculty of Science and the Faculty of Physical Education for Boys, University of Alexandria.



Alex Eagles Alexandria Engineering team won world gold in the SAE International Competition in America. The team won the award for the best design for a drone, first place in the world in the design report for the “Oqab” aircraft, and first place in the world in the oral presentation, making it the first team in Egypt, the Arab world and the Middle East to achieve two gold medals in that competition. The team was able to secure two gold medals out of four, shared equally with the University of Puerto Rico team in the United States of America, which also won two gold medals in the flight rounds and the overall ranking, outperforming 30 teams from all countries of the world.



At the Faculty of Agriculture, Alexandria University, the “First Forum for Entrepreneurship and Innovations” was held on Wednesday, June 21, 2023, in the presence of a group of faculty members, the college’s supporting staff, and business and industry leaders. The students presented their innovations in various agricultural fields to real specialists from business and industry leaders, so that their innovations could be truly evaluated, including an academic and industrial perspective, so that they would be applicable on the ground.



Faculty of Science, Earth Day 22/5/2022. Chemistry Department talk about the Department achievements and showcase student chapter work and opportunities available for undergraduates before and after graduation and get the first place in the Earth Day Poster Presentation.



Training of the Safety and Health Student Team at the Faculty of Science



Alexandria University, received the Excellence Award from the Society of Petroleum Engineers International “Student chapter Excellence Award 2022”



SNAME Alexandria Team subscribe a group of students in the department competed in the international ship design competition among students around the world to succeed in creating a complete design and the SNAME Alexandria team won third place for the second year in a row. The “Dr James A Lisnyk Ship Design Competition” is presented by the SNAME organization to compete between various student chapters in universities around the world.



A field visit on Sunday, March 6, 2022, to the Burullus Composite Power Station, affiliated with the West Delta Electricity Production Company, for fourth-year students and tenth-term students in the electromechanical program in specialized scientific programs. The visit program began with a presentation of an introductory lecture on the installed station, including security, safety, and environmental factors monitored and recorded at the station’s site and the surrounding area. Then the students listened to a detailed lecture on the basic components of the station, as well as how to operate, manage it, and connect it to the unified republic’s network. The students then visited the site to see all the components of the station on the ground.

Number of student organizations related to sustainability:

There are 28 students' organizations related to sustainability organized and participated in many activities.

The number of students' events related to sustainability is more than 70 events in 2022 to 2023.

The table above show examples of some activities with description and photos.

Number of cultural activities on campus (e.g.Cultural Festival) including virtual activities

The number cultural activities on campus organized by Alexandria University: **247 events**



Museum of Central library of Rare collectibles, Heritage books and manuscripts (Alexandria University, EGYPT)

Hall 1 contains the first University Thesis and Graduation Certificate of the most famous graduates, University building maps, and heritage manuscripts.

Hall 2 contains the 13th century AD manuscript of David's Ticket. The Library contains 1095 Arabic Manuscript. 24 Persian Manuscript and 114 Turkish Manuscript.

Hall 3 contains 1337 volumes, including books on the Crusades, and many rare books on Egypt in German, French, Italian, and the first foreign publications, the oldest of which date back to the 16th century AD.

Link: <https://clib.alexu.edu.eg/index.php/2019-02-12-09-16-07/2019-02-12-09-23-42/2021-01-20-19-49-36>

Link: <https://clib.alexu.edu.eg/index.php>

Link: <https://alexu.edu.eg/index.php/en/university-libraries>

Link: <https://alexu.edu.eg/index.php/en/2015-11-24-10-39-04/libraries1/central-library>



Museum of Central library of Rare collectibles, Heritage books and manuscripts (Alexandria University, EGYPT)

Geological Museum at the Faculty of Science (Alexandria University, EGYPT)

The Geological Museum at Alexandria University has several significant specimens, such as rocks, minerals, and fossils, collected through the research activities of the professors and post-graduate students of the Geological Department-Alexandria University. The Museum was rejuvenated after the generous funding of Centamin Gold Company. Since its opening, it has provided the public, e.g., families

and elementary schools students, as well as undergraduate students, with opportunities to learn about domestic regional geology, underground resources, marine geology, global environment, and geological hazards, including volcanic eruption, earthquake, and tsunami, as well as the latest knowledge of earth sciences. The Museum holds special seasonal exhibitions and urgent investigation debriefing sessions as necessary. It also advances the effort to use our expertise and technology in earth science in the industry. The Museum's ultimate goal is to show what our planet is like, learn how closely humans are interconnected, and think about what we should do to be friendly with our Only One Earth.

The Zoology Department Museum includes a group of preserved and mummified animals, most of them from the Egyptian environment, such as indigo fish - fish of the Red and Mediterranean seas - reptiles - birds – mammals. In addition to a group of human skeletons and some animals and skulls. The museum includes a distinguished collection of mummified heads of Egyptian and European deer. A distinguished collection of coral reefs of the Red Sea are displayed in addition to manufactured models of life cycles and growth stages of many insects, vertebrates and vertebrates, as well as many slides and microscopic samples.

Display methods vary, such as wooden and glass cupboards equipped with lighting, identification panels, paintings, microscopic slides, and direct projection on some corridor walls.

The museum contributes to providing educational services to undergraduate and postgraduate students through review, examination and practical application of some academic courses. The opportunity for school visits as a service to the Alexandrian community is also provided.

Conferences, Symposia and Exhibitions during year 2022



The Social Solidarity Unit at Alexandria University held a symposium entitled “Combat Illegal Immigration”



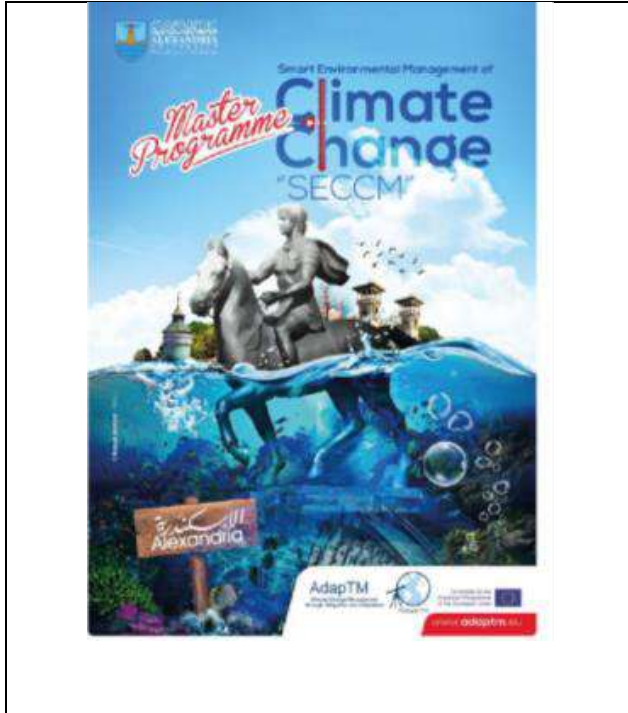
Opening of an exhibition in the Department of Decoration, Faculty of Fine Arts, Alexandria University

Number of university sustainability program(s) with international collaborations

4 QUALITY EDUCATION



17 PARTNERSHIPS FOR THE GOALS

Smart Environmental Management of Climate Change in collaboration with Catania University, Italy.

AdapTm-Erasmus project





The participating countries and Universities: Italy, Greece, Lithuania, Slovenia, Egypt (Alexandria University, Suez Canal University, South Valley University, Arab Academy for Science and Technology and Maritime Transport).



Natural Resources Sustainability for Land Development in collaboration with Aachen University, Germany.

Erasmus+ Project, European Union

The participating countries and Universities: Germany (RWTH Aachen), Egypt (Alexandria University, Heliopolis University, the American University in Cairo, Aswan University), Cyprus (CITY College – Sheffield University), Italy (University of Palermo), Spain (Technical University of Madrid).

	
<p>Sustainable Management of Fisheries and Aquaculture Science, in collaboration with University of Aveiro, Portugal. Erasmus+ Project, European Union The participating countries and Universities: Portugal (University of Aveiro), Italy, Croatia, Slovenia, Egypt (Alexandria University, Aswan University, Matrouh University, Arab Academy for Science and Technology and Maritime Transport).</p>	<p>Euro-Mediterranean Master Of Neuroscience And Biotechnology In Collaboration With Bordeaux University, France. The participating countries and Universities: France (Université de Bordeaux, Aix-Marseille Université); Morocco (Université Cadi Ayyad à Marrakech, Université Sultan Moulay Slimane de Béni Mellal); Tunisia (Université de Tunis - El Manar); Lebanon (Université Saint-Esprit de Kaslik); Poland (Jagiellonian university in Kraków); Egypt (Alexandria University)</p>
	
<p>French Master of Neurobiology in collaboration with Agence Universitaire de la Francophonie (AUF). The participating countries and Universities: France (Bordeaux University, Tours University, Vichy Clermont de l'osteopathie), Morocco (Kady Ayad University, Private University of Marakesh)</p>	

Smart Environmental Management of Climate Change in collaboration with Catania University, Italy
2 year Postgraduate Master program (4 semesters).
AdapTm-Erasmus project: The participating countries and Universities: Italy, Greece, Lithuania, Slovenia, Egypt (Alexandria University, Suez Canal University, South Valley University, Arab Academy for Science and Technology and Maritime Transport).
Program start date: year 2019
Link: <https://emuni.si> > ADAPTM-handout_2_Mod



Sustainable Management of Fisheries and Aquaculture Science, in collaboration with University of Aveiro, Portugal.

2 year Postgraduate Master program (4 semesters).

(Erasmus+ Project, European Union): The participating countries and Universities: Portugal (University of Aveiro), Italy, Croatia, Slovenia, Egypt (Alexandria University, Aswan University, Matrouh University, Arab Academy for Science and Technology and Maritime Transport).

Program start date: year 2021

Link: <http://fishaqu.eu>

Natural Resources Sustainability for Land Development in collaboration with Aachen University, Germany

2 year Postgraduate Master program (4 semesters).

Erasmus+ Project, European Union: The participating countries and Universities: Germany (RWTH Aachen), Egypt (Alexandria University, Heliopolis University, the American University in Cairo, Aswan University), Cyprus (CITY College – Sheffield University), Italy (University of Palermo), Spain (Technical University of Madrid).

Program start date: year 2022

Link: <https://suremap.eu>

<https://www.facebook.com/suremapproject> <https://www.linkedin.com/company/suremap-project>

Euro-Mediterranean Master Of Neuroscience And Biotechnology In Collaboration With Bordeaux University, France.

2 year Postgraduate Master program (4 semesters).

The participating countries and Universities: France (Université de Bordeaux, Aix-Marseille Université); Morocco (Université Cadi Ayyad à Marrakech, Université Sultan Moulay Slimane de Béni Mellal); Tunisia (Université de Tunis - El Manar); Lebanon (Université Saint-Esprit de Kaslik); Poland (Jagiellonian university in Kraków); Egypt (Alexandria University)

Program start date: year 2012

Link: <https://Alexu.Edu.Eg/Index.Php/En/Faculties-Centers/2016-02-03-10-09-06/Scientific-Laboratories-Equipment-Unit-Of-Alexandria-University/58-Academics/56-Euro-Mediterranean-Master-In-Neuroscience-And-Biotechnology>

French Master of Neurobiology in collaboration with Agence Universitaire de la Francophonie (AUF)

2 year Postgraduate Master program (4 semesters).

The participating countries and Universities: France (Bordeaux University, Tours University, Vichy Clermont de l’osteopathie), Morocco (Kady Ayad University, Private University of Marakesh)

Program start date: year 2012

Link: <https://sci.alexu.edu.eg/index.php/ar/2016-09-26-08-27-56/1191-2019-2018>

Number of sustainability community services project organized and/or involving students



1. Medical and community services convoy

Project name	participants	Project duration	Project area	Number of beneficiaries
Medical and community services convoy	33	One Day 28/10/2020	Dar el tahel mahny El saiuf	445
Medical and community services convoy	37	One Day 9/12/2020	King Mariut (kiswt el shataa)	500
Medical and community services convoy	66	One Day 9/7/2021	Dar El hadia El saiuf	168
Medical and community services convoy	66	One Day 5/8/2021	Baheg Village	417
Medical and community services convoy	57	One Day 6/8/2021	Abo Homos	345
Medical and community services convoy	81	One Day 22/9/2021	Baheg Village 2	650
Medical and community services convoy	61	28/9 – 1/10/2021	Matroh	727
Medical and community services convoy	55	One Day 14/10/2021	Alex stadium	217
Medical and community services convoy	57	One Day 5/11/2021	Ganauty Area	467
Medical and community services convoy	104	8 – 12/11/2021	Siwa	2613
Medical and community services convoy	62	One Day 19/11/2021	Zawiya Abdel Qader	651
Medical and community services convoy	65	One Day 9/2/2022	El Nahda – Borg El Arab	761
Medical and community services convoy	56	One Day 4/3/2022	Ard El Bangar	753
Medical and community services convoy	69	One Day 12/3/2022	Abes 8	818
Medical and community services convoy	47	14/3 – 18/3/2022	Matroh - Swa	1690
Medical and community services convoy	52	One Day 19/5/2022	King Mariout	73
Medical and community services convoy	58	One Day 20/5/2022	El Delengat Area	683
Medical and community services convoy		One Day 4/8/2022	Al-Akreisha in Beheira Governorate	2377
Medical and community services convoy		One Day 2/9/2022	King Mariout	775
Medical and community services convoy		One Day 17/9/2022	Abes 7	603
Medical and community services convoy	50	One Day 15/10/2022	Abes 8	648
Medical and community services convoy	46	One Day 28/10/2022	Janayoti area	598
Medical and community services convoy		30 Days 1-30/11/2022	Bashaier El Kheir area	30,211
Medical and community services convoy	60	One Day 27/1/2023	Abu Al-Matamir	804

Medical and community services convoy	66	One Day 17/2/2023	King Mariout	737
Medical and community services convoy		One Day 20-24/2/2023	Siwa	6311
Medical and community services convoy	35	One Day 18/5/2023	Administrative Prosecution Complex in New Smouha	307
Medical and community services convoy	59	One Day 13/7/2023	Kom Hamada (Beheira)	390



Description:

Example from Alexandria University.

Additional evidence link:

https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5857&catid=21&lang=ar-AA

2. Service projects of Alexandria University

The Department of Sculpture in the Faculty of fine Arts participated with the following projects for community service and environment development:

- Borg El Arab road with sculpture arts of students' graduation projects through the last five years.
- Enhancement of El Mahmoudia canal.
- Enhancement Red Sea governorate with graduation projects.
- Design and implement sculpture model in Ahmed Zwiel square.

Additional evidence link: <https://alexu.edu.eg/index.php/en/2015-11-24-10-38-07/university-and-society-of-alexandria/service-projects-of-alexandria-university>



3. Training Centers at Alexandria University

Faculty Leadership Development Center

The Alexandria University Faculty and Leadership Development Center (FLDC) is a full service hospitality venue focused on the discipline of collaborative convening. The center offers clients services that merge the theory and practice of collaborative strategies. We invite leaders to come together for meaningful interaction and dialogue, reflect upon and challenge their current ways of thinking and acting, practice convergent decision making, and collectively and individually build new capabilities.

Additional evidence link: <https://alexu.edu.eg/index.php/en/2015-11-24-10-43-20/training>
<https://alexu.edu.eg/index.php/en/fldc>

4. The literacy: Alexandria Without Illiteracy:

- Alexandria University is keen to provide all forms of support to confront the problem of illiteracy and eliminate it, believing in the necessary role of Alexandria University in community participation. Alexandria University President stressing the university's keenness to play its role in community service within the framework of the university's social and national responsibility, in line with implementing the state's plan to achieve the goals of sustainable development until 2030, including addressing the dangers of illiteracy. He indicated that **the University established Alexandria University Centre for the Eradication of Illiteracy to implement an integrated strategy to support this national project at the university level.**
- Alexandria University signs a cooperation **protocol with the General Authority for Adult Education to eradicate illiteracy in Alexandria.** In this context, the issue of eradicating illiteracy and adult education is one of the most important development strategies to which the Egyptian state attaches special importance, indicating that the university will implement the protocol through its human cadres (faculty members and students) to eradicate the illiteracy of university workers, villages, and neighborhoods. And the governorate centers under the supervision of specialized professors at the university and participants in the project, pointing out that **Alexandria University, in cooperation with the Alexandria Governorate Authority, will train university youth participating in the project on methods and methods of adult education** through its colleges. In addition, the university is holding training courses to raise the efficiency of workers in the field of literacy. It is committed to allocating a place in the university courtyard for the authority's employees to answer all inquiries, and the university will also choose a coordinating committee to manage and implement the project.
- 1,000 literacy classes have been opened in the governorates of Alexandria, Matrouh, Beheira, and Kafr El-Sheikh, with a capacity of 8,000 students, to begin work directly. He explained that the college will prepare lists of the names of those working in literacy classes as teachers, and award students with certificates of appreciation for each student who participated in the students' success. Alexandria University ranked eighth among Egyptian universities in the field of eradicating illiteracy according to the results of the January 2021. Alexandria University students were able to eradicate the illiteracy of 1,059 students within three months, stressing that eliminating illiteracy is a goal. Alexandria University Center for Illiteracy Eradication" at the Faculty of Education, in cooperation with the General Authority for Adult Education, opened a number of literacy classes, exceeding 1,250 classes in the governorates of Alexandria, Beheira, Kafr El-Sheikh, Gharbia, and Matrouh, which contributed to Raising the university's ranking in eradicating illiteracy and rising from twentieth place last year to eighth place this year, he explained that eradicating illiteracy has become a graduation requirement for every student in the fourth year in the faculties of the educational sector at Alexandria University (Faculty of Education - Faculty of Early Childhood Education - Faculty of Specific Education - Faculty of Education). Sports for Boys - College of Physical Education for Girls), where every student now has to erase illiteracy for 6 people before graduating.



- The Center for Educational Innovations and Distance Learning at Alexandria University completed the evaluation of digital content, which is considered an alternative activity to literacy activity, for 2,333 male and female students. It is worth noting that the digital content activity is a graduation requirement for all educational colleges at the university (College of Education - College of Specific Education - College of Physical Education for Boys - College of Physical Education for Girls - College of Early Childhood Education), where the students developed awareness content aimed at raising awareness of a societal issue. The content was evaluated by a committee of professors from the relevant colleges, in addition to specialists from the Center for Educational Innovations and Distance Learning team.
- Regarding a project to eradicate illiteracy and adult education, College of Education submit a proposal by opening fixed classes to eradicate illiteracy in the main neighborhoods of Alexandria Governorate within schools and youth centers, and carrying out implementation through university students. The university's efforts were also reviewed. In the field of eradicating illiteracy in the period from October 2021 to April 2022 program, where 1,924 individuals were eradicated during that period. In cooperation with the General Authority for Adult Education, as the university contributed to eradicating the illiteracy of 854 citizens during the April 2022 program.
- The colleges of the educational sector at Alexandria University (Faculty of Education - College of Specific Education - College of Early Childhood Education - College of Physical Education for Boys - College of Physical Education for Girls) were able to eradicate the illiteracy of 2037 citizens, and the College of Education was able during the July 2022 program to eradicate the illiteracy of 959 citizens according to what is Registered in the educational process database, in cooperation with the General Authority for Adult Education, and within the framework of the national project to eradicate illiteracy in Egypt.
- Alexandria University students succeeded in eradicating the illiteracy of 1,065 male and female citizens in the January 2023 program, according to the educational process database records. Faculty of Education launched the 28th of February 2023, the convoy organized for the city of El-Amriya, west of Alexandria, in order to carry out its role in community service and to hold immediate literacy exams for a large number of illiterate people. The exams were held at Al-Hassan Ibn Al-Haytham School, in coordination with Undersecretary of the Ministry of Education in Alexandria, and education leaders in Amriya region, with the participation of members of the Literacy and Adult Education Authority, and staff members at the faculty Education, in addition to student teachers who participated in holding exams for illiterate students, and Administrative Director of the faculty's Literacy Centre.
- Alexandria University Centre for Literacy and Adult Education, has been able, since its establishment, to educate more than 13,000 illiterate individuals, and to open 7,800 so far in the governorates (Alexandria -



Gharbia - Kafr El-Sheikh - Marsa Matrouh - Minya - Beheira), pointing out that this number is constantly increasing.

- Under the slogan “**A Decent Life**” and in cooperation between civil society organizations, the “You Are Life” initiative was launched by Alexandria University in the ancient city of Burj Al Arab. The initiative included raising awareness of the **danger of addiction** to the individual and society, **medical convoys** (various specialties), **craft workshops**, **spot exams** (literacy eradication), **awareness raising for women**, **activities for children and a theatre**, in addition to providing **counseling services**, **psychological** and **family support**, and **diagnosing behavioral** and **psychological problems**. This comes in cooperation between the concerned authorities: (the Anti-Addiction Fund, the Ministry of Health and Population, the Ministry of Youth and Sports, the Ministry of Culture, the University of Alexandria, the National Council for Women, and the General Authority for the Eradication of Illiteracy and Adult Education), other specialized institutions, and civil society organizations.

Additional evidence link:

<https://alexu.edu.eg/index.php/en/community-development-and-environmental-affairs/6442-the-literacy>

5. Transformational Training and Capacity Development

Striving to enable graduates, university youth, and civil society to acquire additional skills in the basic field or in a related profession or in a new and emerging field of work in order to meet the internationally available job opportunities to extend the alignment with the sustainable development agenda of "Egypt Vision 2030".

Activities / Achievements

Pharmacists training program for a group of pharmacists in Alexandria governorate pharmacies.

Training courses in the field of mental health in the community.

Graduate qualification courses ICDL Digital marketing

Holding a group of professional courses in cooperation with the Don Bosco Institute in Alexandria, which are:

Paper recycling course in cooperation with the College of Fine Arts.

Training course on the mannequin in cooperation with the Faculty of Specific Education.

Air conditioning and refrigeration course in cooperation with the College of Engineering.

Electrical installation course in cooperation with the College of Engineering.

Additional evidence link: https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5930

6. Employment fair: An Employment Forum is held every year in several Faculties on Alexandria University Campus.

Additional evidence link: <https://alexu.edu.eg/index.php/en/Employment-fair-en>

7. University centers and units

English Language Center for Special Purposes

Community Service Center

Center for Career Development and Entrepreneurship CDCE

Professional training center

Additional evidence link: <https://alexu.edu.eg/index.php/centers>

8. Community initiatives

The Community Service and Environmental Development Affairs Sector at the Faculty of Science, Alexandria University, with the participation of the Anti-Addiction Fund, the Al-Hayat Center for Addiction Treatment, and IBRO, organized an awareness campaign in the 10th Abis district to shed light on the dangers of addiction and its negative physical and psychological effects. They raise awareness of the dangers of addiction, encourage children to understand the parts of the brain, identify the region’s needs for services and development, and identify the obstacles facing the region such as the lack of competencies in the health unit

to operate and deal with the devices, and the density of the number of students in schools. The region, the lack of interest in the quality of education, the lack of adherence to precautionary measures, and the region's need for special medical convoys for chronic diseases such as treatment of blood pressure and diabetes



- In line with the state plan to develop Egyptian villages and within the activities of the **Decent Life Initiative** to support human building. Alexandria University, organized an awareness convoy in the Abis 7 area on Saturday, March 19, 2022, as part of a series of visits. The campaign targeted 200 individuals from different groups. The Faculty of Science participated in awareness programs that included training for laboratory experiments and some simplified scientific concepts for children. The Faculty of Arts provided a psychological counseling service. For the people of the region, the Higher Institute of Public Health participated in providing awareness, health education, and a survey of the possibility of parasitic infection to a number of residents of the region. The Fund for **Combating and Treating Addiction and Abuse**, affiliated with the Ministry of Social Solidarity, raised awareness of the drug abuse law and provided health support to those in need of treatment. The Electricity Company also continued to provide technical support and receive complaints from the villagers and submit them via the electronic platform.
- A delegation from Alexandria University made a field visit to the water lifting stations in the Sidi Ghazi (Harith) Canal branching off from Lake Mariout to discuss how to provide **technical and scientific support** towards the phenomenon of **lake water leakage** and find scientific solutions to confront the problems. Water shortage and desertification to make the most of the lake. Alexandria University has paid great attention to Lake Mariout for more than 20 years, and has presented several studies as a house of expertise for major projects in Alexandria and its suburbs, and out of its belief in its role in serving and developing the Alexandrian community. These studies have been published in international journals, emphasizing the university's continued use of all its energy to develop it. These areas extend beyond the forum, and a set of goals have been identified during the coming period, which are to find solutions to the problem of water leakage from the lake, the problem of sewage, and the problem of paving the road connecting the village to the desert road, which is 5 kilometers long. During the day, the convoy carried out an awareness campaign in cooperation with the **Drug Control Fund**, during which leaflets were distributed, and a symposium was held to introduce the harms of drugs and smoking. In addition to other public seminars on health awareness, gynecological diseases, family planning methods, and a symposium on breast tumors, coinciding with World Cancer Day. The members of the convoy also carried out several different social and medical activities during the day, including a clinic for early detection of blood pressure and diabetes, where 118 blood pressure tests and 93 blood sugar tests were done, and 48 early detection of hepatitis C virus were done, affiliated with the Ministry of Health, represented by the 100 Million Health campaign. In the same context, the university announced its intention to continue its efforts to confront poverty in those areas by sending a team to train women in sewing and embroidery and opening literacy classes for children and the elderly.

- Alexandria University launched its second campaign in the village of Abis 7, with the participation of the Alexandria Petroleum Additives Company (ACPA), the Holding Company for Drinking Water, the Sanitation Company, Nahdet Misr, the Egyptian Red Crescent Society, and the Fund for Combating and Treating Addiction and Abuse. On Saturday, December 25, 2021, the campaign targeted about 800 individuals from various groups, and 500 units (blankets and food commodities) were distributed to some of the neediest families. Activities also varied throughout the day, as the companies participated in the awareness campaign made an inventory of service needs in preparation. To solve it. The needs of various training programs to support human development in the village were also identified by the college's social responsibility team.
- Alexandria University launched an awareness campaign for the Abis 7 area, with the participation of the Holding Company for Drinking Water, the Sanitation Company, Nahdet Misr Company for Modern Environmental Services, the Egyptian Red Crescent Society, and the Fund for **Combating and Treating Addiction and Abuse**, on Saturday, December 11, 2021. The campaign included several activities with the people of the region, such as distributing awareness-raising publications to maintain brain health by the college's social responsibility team and organizing an awareness-raising activity about the danger of addiction within the activities of the **"Alexandria Without Addiction"** initiative. The water and sanitation companies also held interactive programs on the importance of water conservation and conservation, and the safe disposal of solid and liquid household waste, and conducted a number of craft workshops, including plumbing and soap making. They also contributed to bringing joy to children by participating in interactive games and distributing in-kind gifts to them and the women. The water company's logistical customer service vehicle was present, which received complaints from residents in the area. At the beginning of the meeting, the Egyptian Red Crescent Society was keen to sterilize the place and hold a symposium on the importance of precautionary measures against the Corona virus. It also organized a symposium on the principles of first aid, and Nahdet Misr Company for Modern Environmental Services carried out a cleaning campaign for the place and distributed an awareness brochure on the importance of safe disposal of garbage.



- Launching of the **"Awareness Hall Ambassadors"** program at Alexandria University to raise awareness to achieve the goals of sustainable development of the necessity of building leadership cadres to work in the field of awareness (the Solidarity Conscious People Initiative), and in cooperation with the Leaders Foundation for Administrative Sciences and Development, the State Information Service, the officials of the Ministry of Solidarity, and the Leaders Foundation for Administrative Sciences, in order to implement the program that aims to Achieving the state's plan to advance the citizen and preserve the homeland (a decent life initiative), and build cadres to work in the field of awareness (the eradication of a solidarity-conscious people), and discuss issues of awareness at all levels.
- 30 students from Alexandria University participated in the first training program launched by the Hayat Karima Foundation for university students in cooperation with the National Presidential Academy for Training. It will be held in the period from May 20-22/2023, to train university students on volunteer work and introduce them to the activities of the Hayat Karima Foundation as a national project to support youth initiatives, and applying it, by implementing and managing university youth. The program aims to encourage

cooperation between all state institutions and civil society organizations to meet the needs of the people of the targeted villages and educate young people about the efforts made by the state to raise the standard of living and overcome challenges to reach a better future. During the program, students are trained on life and volunteering skills, and the training enrich their information with knowledge of public interest.

Number of sustainability-related startups



Museum of Central library of Rare collectibles, Heritage books and manuscripts (Alexandria University, EGYPT)



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Agro-Food Industries Alliance Products

New partners

Agro-Food Industries Alliance Project



Samdha Company, founded by Musaad Darwish, a student in the Department of Civil and Environmental Engineering at the Faculty of Engineering



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



Courses of the Center for Services and Developing Artistic and Architectural Skills at the Faculty of Fine Arts (Alexandria University)

1- Museum of Central library of Rare collectibles, Heritage books and manuscripts (Alexandria University, EGYPT)

Hall 1 contains the first University Thesis and Graduation Certificate of the most famous graduates, University building maps, and heritage manuscripts.

Hall 2 contains the 13th century AD manuscript of David's Ticket. The Library contains 1095 Arabic Manuscript. 24 Persian Manuscript and 114 Turkish Manuscript.

Hall 3 contains 1337 volumes, including books on the Crusades, and many rare books on Egypt in German, French, Italian, and the first foreign publications, the oldest of which date back to the 16th century AD.

Link: <https://clib.alexu.edu.eg/index.php/2019-02-12-09-16-07/2019-02-12-09-23-42/2021-01-20-19-49-36>

Link: <https://clib.alexu.edu.eg/index.php>

Link: <https://alexu.edu.eg/index.php/en/university-libraries>



Link: <https://alexu.edu.eg/index.php/en/2015-11-24-10-39-04/libraries1/central-library>

2- Artificial Intelligence Minds Incubator (Faculty of Engineering, Alexandria University)

• Incubated Startups

1. Hive

Developing AI security drones and rovers to replace high cost security guards.

2. Blue Vision

Using AI to help recruiters in identifying the right candidates through video recorded online automated interview.

3. Flothers

Using AI for recommending Forex and Stock Market investment.

4. Pianat.ai

Developing AI based decision support system for both government and private sector decision making process based on data coming from different sources.

5. VRNRS (Name has been changed based on their bootcamp tips to be EDSINE)

Using AI for simulating nuclear reactor operations and accidents, this is a teaching simulator aim in for sales in the scientific community and power companies using nuclear reactors. realistic and willing to develop new business.

6. Qubx

Developing 3D printed/visualized models to be used in surgery operations preparation by doctors and also creating 3D models for babies.

3- Alexandria University Technology Incubator for Smart Systems (AUTISS)

Alexandria University Technology Incubator for Smart Systems (AUTISS) was accredited by the Ministry of Higher Education in 2020 to be established at Smart Critical Infrastructure (SmartCI) Research Center, Alexandria University (AlexU).

AUTISS aims to nurture the culture of innovation at campus among the university community and to create value added services for researchers and entrepreneurs.

AUTISS is mainly interested in using Smart systems and modern technology for the development of different infrastructure systems (e.g., education, transportation, healthcare...etc.).

AUTISS Vision

AUTISS aims to be a hub that fosters synergy between the academia and the industry to fuel entrepreneurial spirit among students to help them to be self-reliant and contribute to the economic development and nation building.

AUTISS Mission

- To build an ecosystem to incubate and support innovative ideas in Alexandria and the surrounding areas to enact wealth and employment action through successful startups.
- To create entrepreneurial opportunities for students, graduates, faculty members and researchers.
- To support emerging technologies that are useful to enter the market.
- To nurture technology and knowledge-based ventures through their start-up phase by providing the necessary support.
- To assist in commercialization of innovative ideas from students and researchers.

Areas of Interest



AUTISS supports entrepreneurship and provides a set of technical and business-related services to startups that deliver technological products or services for the development of the different infrastructure systems. Current topics of interest, based on the international trends and Egypt's 2030 strategy, includes but are not limited to:

- Digitization of different services
- Smart health services/products
- Fintech applications
- Smart business solutions
- Smart educational services/products
- Biomedical engineering
- New technologies in the field of Energy, Agriculture and Food industry

AUTISS Facilities

- **Furnished office space**
- **Class rooms**
- **High Performance Computing lab**
- **Access to labs**
- **Meeting rooms**
- **Kitchen area**
- **Parking space**

4- Agro-Food Industries Alliance Project

The presence of sectoral alliances in the world is one of the most important ways to increase national income and develop small and medium industries.

From this standpoint, the Agro-Food Industries Alliance was formed, which consists of 16 partners (universities, research institutions, industry representatives, small and medium-sized companies, NGOs and local authorities).

Alliance Partners:

Universities: Alexandria University, Damanhour University, Kafr El Sheikh University, Suez Canal University, Ain-Shams University, Arab Academy for Science, Technology and Maritime Transport

Community organizations: Lake Investors Association, The Egyptian Foundation for Bio-Agriculture, Regional Federation of NGOs

Research or industrial centers: Agriculture Research Center, National Research Center, IMC

Company: Saqr Company, Isis company, IT&M Company.

5- Samdha Company, founded by Musaad Darwish, a student in the Department of Civil and Environmental Engineering at the Faculty of Engineering in 2022.

Logo: Green growth, Granted Crops! Feeding natural, Eating Natural!

Vision: Reaching agricultural planting free of chemicals and trying to reduce water use in desert lands.

Activity: Making full use of organic waste and agricultural waste and converting them into products used for the purpose of developing the agricultural system, such as fertilizer.

Process: Using natural organisms that decompose organic waste, from which vermi compost and Frass fertilizer are obtained without any chemicals, "100% natural process."

Actual products: - Vermicompost powder, which has a high biological value and is used internationally.

-Liquid Vermi-T fertilizer is used with irrigation or when spraying.

-Frass fertilizer rich in chitin.

Products in development: Extracting cellulosic materials from agricultural waste to obtain biodegradable materials that retain water for long periods for use in desert lands to combat the issue of water shortage that the country is currently suffering from.

Roadmap: The idea began in October 2020 during the Local Conferences of Youth (LCOY) for getting rid of organic waste that causes a bad environmental impact, such as the emission of methane gas, which contributes greatly to the phenomenon of global warming and climate change that we are experiencing now.



- 1- the project started with German Agency for International Cooperation (GIZ) with an initial idea, developed the business plan, and the competition ended with the fourth best project.
- 2- Currently joining the Heliopolis University incubator and Intecmet Egypt, the project was selected from among 12 projects to compete for a financial prize worth 10-30 thousand euros for three of the 12 companies.
- 3- An opportunity to travel to Greece affiliated with the incubator on May 25 (2021) to attend an investment conference and pitch the project in search of an investor.
- 4- Engineer Fatima Badawi and Engineer Amr Al-Adawi, founders of ESSCo, are partners with the land and a sum of money as “business partners.”
- 5- The project was accepted into the Al-Forsa program with Lamis Al-Hadidi and filmed in May 2022 in Alexandria.
- 6- The project was also funded by the European Union’s MADE project to help manufacture water conservation products in desert lands.
- 7- Participation in presenting products in the Cairo Techni Conference.

What has been accomplished: Twenty tons of organic waste have been converted into fertilizer so far.

By the end of 2023, we aim to produce 100,000 ton, in addition to teaching a number of farmers how to deal with waste leaving their land to reach zero waste and a sustainable environment.

Clients: Organic farms - soilless crops - regular agricultural lands (the possibility of converting acres into organic agriculture within a period of time).

Offending products: Black soldier larvae (BSF), which are a good source of high-protein casing, 40-60%. They can be squeezed to extract oils for cosmetics manufacture. Its protein extract can be sold to pharmaceutical companies.

Alexandria University Service Centers

6. Center for studies, technology and manufacturing of seawater desalination equipment

Objectives:

- Qualifying the necessary scientific and technical personnel in the areas of technological specializations that serve water desalination and preparing scientific and applied studies in this field.
- Organizing training programs for workers in the fields of water desalination.
- Achieving integration between scientific and technical competencies in universities, research centers and ministries at the national level in the field of water desalination manufacturing technology and providing studies and technical consultations in this field.
- Achieving cooperation at the regional and international levels with universities, research centers and bodies working in the field of water desalination.
- Organizing scientific and applied courses to grant technical diplomas in the fields of technology, manufacturing, maintenance and management of water desalination plants.
- Organizing conferences and holding seminars, meetings and courses necessary to implement the previous objectives.

7. The Scientific Center for Pharmaceutical Research Center, headquartered in the College of Pharmacy

Objectives:

- Conducting scientific studies and research aimed at solving community problems related to production activities and service delivery, with a focus on the pharmaceutical sector.
- Conducting scientific and applied research to produce new medicines, including natural products.
- Contributing to developing professional performance and developing the skills of workers in the pharmaceutical industry sector and related fields.
- Strengthening the ability of Egyptian medicine to enter global markets.



- Strengthening scientific and cultural ties between the university's colleges and institutes and between Alexandria University and other universities and scientific bodies at the national, Arab and international levels.
- Carrying out scientific studies and production work on behalf of others.

8. Center for Community Service and English Language for Special Purposes

Objectives:

- Identifying the training needs of society and helping to achieve them and translate them into scientific programs.
- Organizing continuing education programs to provide continuing educational opportunities with the aim of developing sectors of society to interact with development programs and develop them in accordance with scientific developments.
- Preparing and implementing cooperative education programs to provide scientific expertise to community groups in the work and production sectors.
- Organizing study and training courses on an ongoing basis throughout the year in the center's various activities.
- Organizing free studies to meet the needs of the environment and society, including individuals and bodies, in various fields of knowledge, culture of environmental awareness, and information technology.
- Providing summer courses for English teachers in language schools to improve several skills such as pronunciation and listening, and holding special workshops for language school teachers.
- Providing a long-term course for non-specialized English language teachers in agreement with the Ministry of Education to graduate specialized English language teachers.
- Preparing a TOEFL program to qualify the student to take the international TOEFL exam, which is held at the American Center.
- Preparing special programs for postgraduate students in the Colleges of Physical Education for Boys and Girls, as well as the College of Nursing, to raise their level in the language so that they can use English references in their studies.
- Participation in scientific seminars and conferences inside and outside the country.

Link: <https://www.facebook.com/AUCDCenter?mibextid=ZbWKwL>

9. Parks Management Center

Objectives:

- Carrying out the process of establishing, maintaining, renovating, and developing the university's gardens and green spaces for the various colleges at the university.
- Producing ornamental plants to cover the needs of the university's green spaces.
- Marketing plant products inside and outside the university.
- Implementing what is assigned to it by university officials and in accordance with its capabilities and objectives.
- Openness to the community and providing services in the field of the center's various activities.
- Contributing to conducting scientific studies and research aimed at solving community problems in the field of nursery management and production processes for flowers and ornamental plants.
- Developing and modernizing the nurseries affiliated with the university administration to improve the level of their production of flowers, ornamental plants, and internal coordination.
- Participate in providing and presenting scientific plant models to some practical colleges.

10. University Cities Service Center

Objectives:



- Assisting the university in performing its mission towards providing social, cultural and artistic care for its students.
- Contributing to providing services to the university, its colleges and institutes in line with the components of unity.
- Strengthening cultural and scientific ties between the university and other universities, ministries, bodies, and various scientific and cultural institutions by using the facilities and facilities of this center.
- Contributing to the development, improvement and multiplication of the center's production and service activities under the supervision of a group of distinguished faculty members with experience in this regard.
- Carrying out the work assigned to the center by university officials and in accordance with the capabilities and components of the center, its facilities and facility.
- Participation in achieving the university's mission towards community service and environmental development.

11. Student Activities Service Center

Objectives:

- Developing the sporting, artistic and cultural capabilities of university students, graduates and members of the Alexandrian community.
- Supporting university values through social, sports, physical and health care by practicing various sporting activities.
- Organizing sports, cultural and social activities for the university community according to the center's capabilities and goals.
- Teaching the principles and principles of practicing various sports activities to students, workers, faculty members, their children, and members of the Alexandrian community.
- Discovering the talents of the participants to benefit from them in representing the university or the Egyptian national team.

12. Languages and Translation Unit – Faculty of Arts

Objectives:

First: The center aims, through the Center for Teaching Arabic Language to Foreigners, to:

- spread the Arabic language, its civilization and culture, ancient and modern, outside the borders of the country.
- introduce ancient and modern Egyptian civilization through educational lessons, field visits to archaeological sites, and general educational lectures.
- conclude cultural agreements with a number of the most prestigious European and Asian universities.
- establish special courses for Muslim students in various Islamic republics.
- train non-Arab teachers to teach the Arabic language using modern technological means.
- help scholars and graduate students complete their research on teaching the Arabic language to non-native speakers.

Second: The center also aims, through the Center for Humanitarian Studies, to:

- pay attention to heritage and obtaining manuscripts of cultural value.
- organizing conferences and seminars that contribute to community service and environmental development.
- hold specialized training courses in the cultural, social and psychological fields.
- support studies and research on psychological and linguistic disabilities and treating their effects.
- adopt, preparing and implementing cultural projects and conducting research and measuring public opinion.

Third: The center also aims, through the activity of the Linguistic Studies and Translation Center, to:



- improve the level of university students and graduates in the national language and other languages by developing and implementing general programs for training courses to strengthen language skills.
- develop special language programs for different bodies, each according to their needs.
- review university theses, books, and linguistic research, and translating books, research, bulletins, and certificates.
- study linguistic topics and issues that are referred to or presented to the center.
- carry out an integrated translation project from and into Arabic to fill the gap in some areas of human knowledge.

Fourth: The activity of the Geographic Information Systems Center:

Community service and contribution to human development using geographic information systems (GIS) provide services in the fields of:-

- Managing and exploiting natural and human resources and creating maps and surveying works (marine and land).
- Economic and urban planning and its success in planning and managing public utility networks in cities (traffic networks, public utility networks, energy networks) and in the field of planning and managing educational services.
- Evaluating the effects resulting from environmental hazards and disaster management.

Link: <https://www.facebook.com/LTU.FOA>

13. Center for Legal and Economic Studies, Research and Services – Faculty of Law

Objectives:

- Providing legal and legal consultations, preparing and reviewing contracts and legal forms, preparing feasibility studies, and participating in arbitration and amicable settlement of disputes.
- Contributing to education and awareness of the law and developing capabilities to practice various aspects of legal activity.
- Documenting foreign laws and providing legal information.
- Organizing conferences and periodicals on topics related to the center's objectives and issuing bulletins and periodicals to educate and raise awareness of human duties and rights.

14. Center for research and commercial studies - Alexandria – Faculty of Commerce

Objectives:

- Supervising and coordinating with the college's scientific departments to implement computer-related study programs.
- Training students, graduates, and members of the Alexandrian community on computers, how to use them, programming, and different languages.
- Supervising the development of an information system for the college's administrative departments and other colleges and automating administrative work in all departments.
- Assisting research students at the master's and doctoral levels and faculty members in solving scientific problems using computers.
- Students use computers as an educational means that helps them comprehend scientific materials.
- Writing all forms, records and documents that are circulated in all administrative departments on computers and printing them in the college's printing press to save time, effort and cost.
- All student exams are printed in the college printing press on the same day of the exam, shortly before it begins, in order to preserve the confidentiality of the exam.
- Printing university textbooks and open education books and making them available at the beginning of the academic year.
- Providing commercial consultations in all specialties to the financial and business community.
- Providing student services in the field of providing books and various publications and preparing educational supplies and aids.



- Preparing and organizing qualification courses for various professional certificates in the commercial field and management information systems.
- Preparing and organizing trade courses and specialized exhibitions.
- Preparing and organizing language courses and their applications in the commercial field.
- Supervising the implementation of strengthening groups.
- Financial and administrative supervision of professional Master of Business Administration for executives.

Link: <https://www.facebook.com/crcs.fca?mibextid=9R9pXO>

15. Central Laboratory at the Faculty of Science

Objectives:

- Documenting cultural, scientific and applied ties with entities, bodies and companies.
- Using modern scientific methods.
- Contributing to solving problems related to industrial production.
- Conducting scientific studies and research aimed at solving society's problems related to production and service activities and companies at all local, Arab and international levels.

Link: <https://clu.alexu.edu.eg/index.php/en/>

<https://www.facebook.com/central.lab.Alex.Sci.EG?mibextid=ZbWKwL>

16. Electron microscope center at the Faculty of Science

Objectives:

- Serving researchers and graduate students in the biological, geological, medical and engineering fields by preparing and photographing samples as well as analyzing their components.
- Strengthening cultural and scientific ties with other universities and scientific bodies.
- Contributing to training researchers to use modern scientific methods by conducting modern training and technical courses on a regular basis.
- Making biological and other sectors, photographing and printing them.

Link: <https://www.facebook.com/profile.php?id=100057656911232&mibextid=ZbWKwL>

17. Computer and Microcomputer Center at the Faculty of Science

Objectives:

- Holding courses to serve researchers and graduate students at the university in scientific, technical and applied computers and various uses of computers and microcomputers to raise their productive efficiency.
- Organizing general courses on scientific and applied computers for the local community in the field of computers and microcomputers.
- Strengthening ties and cooperation with universities, national and international bodies and institutions to develop unity and exchange programs and expertise in the field of computers.
- Providing scientific consultations to industrial bodies and companies in the field of computers and its uses.

18. Medical analysis, examinations and diagnosis of occupational diseases center – Faculty of Medicine

Objectives:

- Evaluating the work environment and its impact on employees.
- Providing health services to factory workers and those exposed to occupational hazards.
- Providing the necessary consultations in occupational safety and health to factory doctors and industrial security officials in various companies.
- Conducting advanced research in the field of industrial medicine and occupational diseases.



19. Pharmaceutical and General Services Center – Faculty of Pharmacy

Objectives:

- Providing all pharmaceutical services to various productive sectors in the field of pharmacy and industries and holding conferences and scientific seminars to serve the pharmacists sector.
- Conducting pharmaceutical studies and research aimed at solving community problems, whether related to production activity or providing services.
- Strengthening scientific and cultural ties with other universities and scientific bodies at the Arab and international levels.
- Assisting the university in improving the college's general educational service.
- Conducting training courses in various pharmaceutical fields, providing expertise and advice to the pharmaceutical production sectors, and contributing to linking the university with society and industry.
- Holding training courses for graduates of colleges of pharmacy to raise the level of performance in community service.
- Implementing university projects and carrying out maintenance and repairs needed by the college.
- Conducting sample analysis for some pharmaceutical companies and providing research results to serve the pharmaceutical industry.
- Serving researchers and graduate students in preparing their research.

20. Center for Scientific Computing – Faculty of Engineering

Center objectives:

- Providing training courses in the field of computers and information systems.
- Providing technical consultations and advice in the field of computers, networks, control and information systems.
- Implementing private and public software for the benefit of the university and its branches and for the benefit of others.
- Carrying out systems analysis and design work.
- Carrying out integrated information systems work and supervising their implementation and operation.
- Conducting seminars and workshops in the field of computers, information systems and control systems.
- Follow up on the Internet.

21. Production Engineering Center – Faculty of Engineering

Objectives:

- Contributing to the projects of the university, its colleges and institutes.
- Carrying out maintenance work that falls within the center's jurisdiction.
- Training College of Engineering students on craft and technical skills in engineering fields.
- Holding training courses for college and university graduates and students in engineering fields, which increases their efficiency.
- Contributing to the training of some engineers and personnel of companies assisting in some production activities.
- Carrying out consulting work for others.
- Engineering evaluation of some projects.

22. Engineering Center for Public Service – Faculty of Engineering

Objectives:

- Holding training courses for companies and bodies in all branches of engineering sciences.
- Organizing scientific seminars and conferences at the internal and international levels.
- Providing engineering consultations and studies to bodies, companies and individuals.
- Providing laboratory tests for all engineering branches.
- Organizing job markets in cooperation with various companies with the aim of creating job opportunities for graduates.



Link: <https://www.facebook.com/EnglishCourseinAlexandria?mibextid=ZbWKwL>

23. Educational Services Center – Faculty of Education

Objectives:-

- Raising the level of performance and efficiency of workers in the field of education, whether they are teachers, mentors, managers, agents, or administrators, as well as those interested in the fields of scientific research.
- Educational professional development by providing programs to prepare and train workers in the educational field.
- Providing technical advice and the center's expertise to all parties and bodies interested in educational, pedagogical and development affairs in the fields of economics, administration, environment, population, media, and governmental and private educational institutions at home and abroad.
- Conducting scientific research and studies related to the areas of work of educational and development centers.
- Holding training programs in the fields of computers, information technology, and administrative and human development.
- Providing development programs, services and consultations in the fields of women's service, environmental protection, community development, health and social care.
- Organizing scientific seminars and conferences to address educational, development, and social issues.
- Providing libraries, laboratories, and laboratories with the requirements they need.
- Issuing and publishing research and studies related to the center's objectives and mission.
- Carrying out translation and publishing work for some foreign sources and references related to the center's mission and objectives.

Link: <https://www.facebook.com/groups/412741199678683/?ref=share1>

24. Education and Public Service Center – Faculty of Dentistry

Objectives:

- Assisting the university in performing its mission in the fields of education, training and research.
- Preparing training courses in scientific departments to raise their scientific competencies.
- Preparing booklets that include continuing medical education and training programs and disseminating them at the university level.
- Improving the educational service and providing the center with modern equipment to raise the level of the center to keep pace with scientific progress.
- Addressing Egyptian and Arab universities to announce the possibility of scientific training at the highest level to acquire scientific and technical skills to raise the level of dentist's competence to keep pace with scientific progress.
- Strengthening cultural and scientific ties with other universities and scientific bodies at the Arab and international levels.

Link: <https://www.facebook.com/Dent.AlexU.Edu.Eg.Ar?mibextid=LQQJ4d>

25. Specialized Medical Treatment Center - Faculty of Dentistry

Objectives:

- Contributing to the treatment of community members using the latest scientific and environmental methods for nominal fees
- Providing a distinguished medical and therapeutic service through an elite group of professors in various dental specialties.
- Providing advanced treatment for children with special needs under general anesthesia.
- Receiving doctors coming from Arab countries to learn about the latest scientific techniques in the field of dentistry.



- Providing the opportunity for faculty members to provide distinguished treatment to community members at reasonable prices.
- Activating the college's own resources to develop the educational and research process.
- Providing research, scientific and medical services and contributions at the highest level in the field of dentistry.
- Reducing treatment expenses for university employees (professors - students - employees).
- Contributing to maintenance and repairs within the college.

Link: <https://www.facebook.com/Dent.AlexU.Edu.Eg.Ar?mibextid=LQQJ4d>

26. Poultry Production Unit - Faculty of Agriculture, Alexandria University

Objectives

The center includes the following activities:

First: Dairy and meat production center activity:

Activity objectives:

- Producing high-quality refrigerated milk and producing heifers of heifers or non-heifers, and working through this activity to spread this good breed (Holster breed) and produce cross-breeding, which can contribute to raising reproductive efficiency and the efficiency of milk production and the proportions of its components through artificial insemination of others.
- Conducting research aimed at identifying more means of developing and improving milk production in order to achieve the greatest possible return.
- Marketing the products obtained from the center's activities inside and outside the university.
- Creating a field for training and educating college students and assisting the university in performing its mission, whether in the field of education, training, or research.
- Conducting scientific studies or research aimed at solving societal problems, whether related to productive activity or providing services.
- Establishing a production model that is managed on the basis of market economics, in which purchases and sales are carried out at market prices and with the aim of employing research knowledge systems to maximize profit.
- Using this economic production model in teaching processes, whether for undergraduate or postgraduate students, and training graduates in the field of dairy animal nutrition.

Second: Poultry and feed production activity:

Activity objectives:

- Providing breeders and young graduates with scientific and technical consultations and feasibility studies in the fields of poultry and rabbit production and free practical training for young graduates at the Poultry Research Center to qualify them to undertake projects in the field of poultry and rabbit production.
- Providing the needs of small breeders and young graduates for hatching eggs and chicks from chickens, ducks, turkeys and quail with high production efficiency and immune to diseases.
- Manufacture of broiler and layer feeds with high-quality plant ingredients and free of animal concentrates.
- Providing rabbit breeders with a pure, highly productive breed (V Line) adapted to Egyptian environmental conditions. The Poultry Research Center is the only approved source for producing this breed in Egypt.
- Developing an adapted local rabbit breed by mixing Spanish rabbits with local rabbits, to meet the needs of breeders and consumers of colorful, highly productive breeds.
- Raising the production efficiency of meat and eggs of the Alexandrian chicken breed (a dual-purpose municipal breed) and disseminating it to small breeders and young graduates.



- Selling high-quality poultry products (chicken, duck, turkey, quail, and rabbit meat, and local table eggs) and plant feed through the sales outlet at the Poultry Research Center and the college.
- Providing support in the field of scientific research aimed at raising the production efficiency of local poultry breeds.

Link: <https://www.facebook.com/profile.php?id=100063577610808&mibextid=ZbWKwL>

27. Feed and fattening animals center - Faculty of Agriculture

Objectives:

- Producing diverse and distinct products through the center's various production activities and marketing these distinguished products at normal prevailing prices to serve the consumer inside and outside Alexandria University.
- Enriching the fields of training, education and guidance for students of the Department of Animal Production and the college, graduates, as well as farmers in neighboring villages.
- Establishing exemplary production patterns that are managed according to market economics and mechanisms and represent a role model for investors and young graduates.
- Employing the system of modern research and scientific knowledge in the field of animal production to obtain distinguished products that bring profit to these activities.
- Funding scientific research for faculty members, teaching assistants, and assistant teachers in the Animal Production Department and the college.
- Providing outstanding performance in the following areas:
 - Accommodating slaughter animals and feeding them in specialized wards for veal, lamb, lamb, and imported animals in preparation for slaughter and meat preparation.
 - Slaughtering and preparing carcasses for the Alexandria region and its suburbs while ensuring their quality and safety in accordance with the latest veterinary and health standards.
 - Providing the needs of university towns and summer camps at Alexandria University for excellent local meat at competitive prices in order to achieve the center's pioneering role in serving Alexandria University students.
 - Producing high-quality beef calves, buffalo, and sacrificial meat to meet the needs of the citizens of Alexandria, while providing slaughtering services at the slaughterhouse for those who wish.
 - Producing a mixture of mineral salts that must be added to animal feed to meet the needs of feed factories and breeders, at mixing ratios that achieve high growth rates for animals.
 - Producing the organic fertilizer "Hapi" from slaughter waste products, which is characterized by a high percentage of organic materials and nutrients necessary to raise soil fertility and nourish agricultural crops and ornamental house plants.
 - Maximizing the utilization of animal by-products such as skin, horns, hooves and blood.

28. Pest control and environmental protection center – Faculty of Agriculture

Objectives:

- Controlling various types of pests, whether those that attack plant and animal wealth of animal origin (such as insects - mites - rodents - snails - nematodes) or pests of plant origin (weeds - reeds - pests that cause plant diseases).
- Controlling pests that attack people and their property in homes, hotels, hospitals, industrial companies, ships, silos, and the like.
- Analysis of conventional and radioactive pesticides and pollutants in food, crops, soil and water and estimation of their residues.
- Estimating the standard specifications of pesticides and their suitability for use and issuing suitability certificates to parties wishing to do so.



- Playing the role of an expert house by conducting feasibility studies for projects related to the production, processing and marketing of pesticides.
- Assisting in the university's performance of its mission in the field of training by contributing to the training of individuals and pesticide users - engineers, inspectors, agricultural extension workers, and industrial security personnel in industrial companies and petroleum companies to use modern scientific and technical methods in the use of pesticides to reach an increase in their production efficiency in the areas of their use of pesticides and to work to protect Protecting the environment from pollution by holding specialized training courses in the above fields.
- Contributing to the production of honey bee queens, parcels, and honey, and the manufacture of foundation wax for the purpose of spreading honey bee breeding in a sound manner, as well as the production of insects and other beneficial organisms.
- Training on a specific pest control system, and the use of modern scientific and technical methods to increase production efficiency.
- Providing scientific consultations related to insects and other animal pests, methods of combating them, protecting the environment, and beekeeping.
- It aims to provide many services that would support the educational capacity of the university by participating in financing the purchase of scientific equipment and research chemicals or in supporting graduate students and faculty members in attending scientific conferences and seminars.

Link:

https://m.facebook.com/story.php?story_fbid=783976126279390&substory_index=783976126279390&id=100085647697526&sfnsn=scwspwa&mibextid=RUbZ1f

29. Agricultural Industrialization Center - Faculty of Agriculture

Objectives: -

- Supplying cities, university hospitals, and other university facilities with high-quality, health-safe dairy products.
- Helping faculty members and graduate students in the department to complete scientific research by making the center's scientific equipment available to them to carry out that research.
- Assisting the department in completing practical lessons for students and introducing students to methods of manufacturing various dairy products.
- Organizing training courses on the manufacture of various dairy products and methods of analyzing them for those interested in the dairy industry.
- Training students of other universities on various dairy industries.
- Carrying out productive work for the benefit of others.

30. Ornamental plants and environmental beautification center - Faculty of Agriculture

Center objectives:

- Establishing a model farm for ornamental plants, seedlings, and bulbs that is managed economically, with the aim of teaching students profit-making management in this specialty.
- Working to finance research in this specialty from the profit revenues from the center's activity.
- Conducting seminars and training courses in the field of garden design and landscaping, maintenance of grass-cutting machines, etc. for engineers and technicians interested in this field.
- Implementing national projects in the field of afforestation, beautification and coordination of public squares and desert roads.
- Working to spread awareness of the beauty of ornamental plants and their role in the decoration of open public places or indoor and closed places, through various media, training courses (for a fee), and creating specifications for coordination and beautification works for gardens and tourist villages.



- Implementing the construction of roof gardens and internal coordination of public and private facilities.
- Integration with the departments of land, water, agricultural engineering, pesticides, plant diseases, economic insects, agricultural extension, and home economics in strengthening and making the center's production process successful to maximize profit.
- Providing practical services and applied expertise to others (for a fee).

31. Analysis and Scientific Services Center at the Faculty of Agriculture

Objectives:

- Overcoming the difficulties encountered by researchers at the college, university colleges, other universities, research centers and various bodies by conducting practical analyzes on the precise scientific equipment available in the central laboratory.
- Holding training courses for researchers at the college and outside it in the field of analysis methods and the use of precise scientific equipment
- Contributing to solving agricultural problems related to development, land reclamation, and the development of livestock, poultry and fish wealth, and agricultural systems, by providing scientific and judicial consultations to various bodies, as well as analyzing samples and preparing reports on that through the extension analysis laboratory and the land and water analysis laboratory.
- Diagnosing pests and diseases, developing integrated control programs and supervising their implementation.
- Conducting various analyzes related to the soil and making recommendations regarding the types of crops that can be found in it.
- Conducting water analyzes for irrigation and drainage and issuing a certificate of validity for this.
- Providing technical advice on agricultural operations by specialized professors.
- Estimating the elements, whether in the soil or in plants.
- Economic feasibility studies for small projects and large companies.

Link: <https://www.facebook.com/profile.php?id=100085463780175&mibextid=ZbWKwL>

32. Occupational Health and Air Pollution Research and Studies Center – High Institute of Public Health

Objectives:

- Training specialists in occupational safety and health from Egypt, the Middle East and Africa.
- Feasibility studies regarding the locations of industrial facilities and their environmental impact.
- Study of health problems in industrial societies and their relationship to the work environment and the external environment of the factory.
- Study air pollution problems and determine their sources and health and economic impacts.
- Studying the economics of methods of controlling environmental factors and their relationship to industrial changes, as well as designing appropriate control systems for each case and following up on their implementation, then evaluating their efficiency and effectiveness.
- Conducting advanced research in the field of occupational health, especially creating and developing methods for detecting and evaluating pollutants inside and outside the work environment and early detection of health changes that accompany these changes, as well as methods for evaluating physical exposures and detecting their impact.
- Providing research facilities for scholars and researchers in the fields of public health, especially in occupational health.
- Providing various medical services in the field of occupational medicine and early detection of occupational diseases.

Link: <https://hiph.alexu.edu.eg/index.php/ar/>

<https://hiph.alexu.edu.eg/index.php/en/>



33. Environmental health research, analysis and studies Unit (EHRAS Unit) – High Institute of Public Health

Objectives:

- Study and evaluate environmental problems, provide appropriate solutions to them, and help the university carry out its mission in the field of the environment.
- Providing services and high-tech laboratory analyzes to faculty members and graduate students at the Institute, other colleges and institutes at Alexandria University, other universities and various bodies.
- Training technical personnel working in the field of chemical and biological analyzes in ministries and various production and service sectors in Egypt and Arab countries.
- Cooperating with various companies in Alexandria Governorate to monitor the quality of production to ensure the quality of the Egyptian product and its compliance with Egyptian standard specifications.
- Finding solutions to environmental problems facing society, such as water pollution, industrial wastewater, and nutrition problems, to comply with environmental specifications, and providing technical consultations in the field of industry.
- Monitoring industrial facilities and natural resources from an environmental standpoint.
- Analysis of water samples from natural and treated sources.
- Cooperating with universities, research centers, and international and local laboratories in research projects and quality control programs to ensure the accuracy of the results.

Link: <https://www.facebook.com/profile.php?id=100076271716744&mibextid=ZbWKwL>

34. Training center – High Institute of Public Health

Objectives:

- Training those working in the field of public health at the Arab and international levels to raise their efficiency and develop their capabilities.
- Providing statistical analysis services for the research of faculty members and graduate students at the Institute, other colleges and institutes at the University of Alexandria and other universities, as well as for research projects that contribute to serving society and the environment.
- Providing services for writing academic theses and making graphs.
- Providing scientific consultations regarding the research plan, the size of the research sample, and different sample selection methods.
- Organizing training courses on the use of computers.
- Organizing courses to implement and operate e-learning programs.

Link: https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5909&catid=21&lang=ar-AA

35. Central Laboratory Center for Advanced Environmental and Biological Analysis - High Institute of Public Health

Objectives:

- Providing laboratory analysis services with modern technology to faculty members and graduate students at the Institute and other colleges at Alexandria University.
- Providing laboratory analysis services and technical consultations to governmental bodies and institutions and public and private sector bodies and institutions with the aim of improving their products and maintaining their quality.
- Cooperation between universities, research centers and local and international laboratories in research projects and quality control programs to ensure the accuracy of the results.
- Accurate diagnosis of viral diseases and some bacterial and fungal diseases.
- Direct and accurate microscopic examination of microbes.
- Analysis of the basic components of foodstuffs (protein, fat, carbohydrate, ash and moisture content).



- Estimation of vitamins and preservatives in foodstuffs and estimation of hormones, enzymes, etc. in biological samples.
- Estimation of heavy metal residues in food, water, air and soil samples.
- Determination of mycotoxin residues in food materials and biological samples.

Link: <https://hiph.alexu.edu.eg/index.php/en/>

36. Veterinary Services Center – Faculty of Veterinary Medicine

Objectives:

- Producing and improving breeds of poultry, rabbits, quail, cattle and sheep, carrying out fish farming projects, developing other traditional products, manufacturing food products of animal origin, as well as producing non-traditional plants.
- Conducting a medical examination on farm animals as well as pets, providing veterinary care, and carrying out therapeutic medical convoys, providing treatment for a nominal fee in the governorates of Alexandria and Beheira and some neighboring governorates.
- Conducting veterinary examinations and analyses, bacterial, viral, parasitic, and histopathological tests, allergy tests, feed analysis, detection of poultry diseases, and examination of foods of animal origin, in order to serve breeders, farms, companies, agencies, and individuals.
- Conducting research aimed at increasing and improving productivity and treating diseases using the latest scientific methods.
- Holding training courses for newly graduated veterinarians and those working in this field to raise the scientific level and practical application, while training administrative cadres to manage production and service projects.

37. Medical Technology Center for Research and Services – Medical Research Center

Objectives:

- Assisting the university in performing its mission, whether in the field of training in the latest scientific techniques or research.
- Conducting scientific studies and research aimed at solving the problems of society and the surrounding environment.
- Contribute to training doctors and specialists to use the latest modern scientific technologies in the medical and research fields, with the aim of raising their scientific competence and preparing researchers and technicians in various scientific and medical fields.
- Providing research and laboratory facilities to faculty members at Alexandria University in implementing research projects for the university and its colleges and institutes by providing the latest advanced laboratories.
- Strengthening cultural and scientific ties with other universities and scientific bodies at the Arab and international levels and exchanging scientific experiences.
- Holding conferences or seminars that address topics that fall within the jurisdiction and objectives of the center that serves the surrounding environment.
- Expanding the areas of medical services that serve the residents of the region.
- Assisting production activity with scientific methods that lead to the development and creation of new methods that result in abundant, multiplied, and improved production.
- Providing diagnostic medical services and effectively assisting doctors in diagnosing diseases using the latest diagnostic devices.

38. Center for Graduate Studies and Research – Institute of Graduate Studies and Research

Objectives:

- Supporting connectivity with industrial and agricultural production sites and service destinations.
- Providing post-experience studies and providing specialized training courses in the fields of environment, biotechnology, materials technology and testing, and information technology.



- Contributing to the implementation of projects of the university and its affiliated colleges and institutes.
- Providing consultations to production and service entities.
- Conducting measurements and tests for various materials and environmental monitoring.
- Providing periodic information services through the Internet and information banks.
- Design advanced programs for information applications.

These various aspects are carried out through the following advisory groups:

1. Scientific Industrial Consulting Group:

This group includes professors specialized in various scientific and engineering fields who provide general industrial technical consultations regarding raw materials and ways to develop them, search for suitable local alternatives to them, as well as study means of production and the possibilities of modernizing them with the possibility of improving the product's properties to suit.

2. Advisory Group for Environmental Impact Studies, Auditing, Environmental Management Systems and Environmental Planning:

This group is concerned with integrated studies of the environmental impact of projects, in addition to the group conducting environmental audits for industrial companies, studying the environmental impact and providing advice to obtain the quality certificate (ISO).

3. Advisory Group for Remote Sensing and Geographic Information Systems:

The group provides expertise in the field of satellite image analysis and the use of geographic information bases to support decision-making. It also cooperates in many areas of monitoring coastal areas, planning and follow-up, in addition to identifying appropriate sites for projects within the framework of environmental impact studies.

4. Consultative Group for Environmental Meteorology:

This group is concerned with monitoring coastal areas, monitoring air pollutants in industrial areas, and satellite observations. The group has created geographical information bases for environmental meteorology over a period of six years using the latest calibration devices. The group also integrates with other groups to study the environmental impact of projects.

5. Information Technology Advisory Group:

This group provides expertise in information systems, network design, support and decision-making, as well as expert systems and automated control systems.

6. Advanced Construction Materials Advisory Group:

The group conducts advanced research and studies and provides technical consultations to companies and bodies working in the field of construction and development.

7. Advisory Group for Polymerized and Composite Materials:

The group measures the mechanical properties of polymers and their composite materials and determines the type of polymer in various plastic samples. It also studies production methods and appropriate raw materials, and determines the appropriate additives and methods of mixing them according to different uses.

8. Solid Waste Management Advisory Group:

The group provides consultations on the management of municipal, industrial and agricultural solid waste. It also holds scientific courses and seminars in this field and participates in research projects to provide the optimal method for treating these wastes.

9. Energy Conservation Advisory Group:

This group is concerned with reviewing energy in all its forms at all levels, such as measuring and analyzing exhaust gases in furnaces and boilers with the aim of improving combustion efficiency and reducing emissions, measuring and analyzing boiler water, in addition to tests of thermal insulation efficiency, lighting efficiency, electrical energy analysis, and compatibility with electrical loads. It also determines the power factor to increase efficiency. Rationalizing the energy used, reviewing energy use, radiation measurements and safety tests for radioactive sources. The group has a mobile laboratory that can visit



sites and make environmental measurements related to energy as well as emissions and study energy consumption and the extent of thermal insulation in industrial sites.

10. Advisory Group for the Prevention of Environmental Hazards:

This group provides services for preventing harmful pests, whether insect pests, rodents, or weeds, and treating furniture using modern scientific methods and using safe materials.

11. Advisory Group for Water Analysis and Treatment:

This group includes several advanced laboratories, one of which is internationally calibrated. It also has a mobile laboratory and a boat equipped to take samples from various sources. This group provides water analysis services, whether drinking water, waste water, or industrial water, and determines its natural, chemical, and biological properties. It also provides consultations in the areas of water treatment. Sanitary and industrial wastewater, and also designs treatment centers and periodically monitors the work of biological centers. It also plays its role with other advisory groups in environmental impact studies and environmental review.

12. Air Pollution Advisory Group:

The group is interested in monitoring organic and inorganic gaseous emissions to determine air quality in residential and traffic-intensive industrial areas. It manages the national network of air pollutant monitoring stations in Alexandria and the Delta. It also provides consulting services to factories and agencies to determine air quality inside and outside the work environment and also control air pollutants.

13. Biotechnology Group:

The group organizes several seminars and theoretical and practical training courses in the field of genetic engineering - advanced techniques in identifying and isolating genes - protein engineering - bioinformatics - modern practical methods in molecular biology and molecular diagnosis.

14. Biological Analysis Center:

The center performs various types of biological analyses, such as microbiological, enzymatic, hormonal, pesticide residue, and toxicological tests.

15. Information and Applications Center:

The Center provides researchers with the service of searching databases for previous studies and provides the possibility of obtaining complete research assets. The Center also organizes a group of training courses in the field of computer applications and programming for individuals, companies, institutions and various bodies. The Center has an Internet forum connected to a high-speed digital line. The center has a group of specialists to assist in preparing and presenting research and reports using computer programs.

16. Encyclopedia of Egyptian Scientific Research:

The encyclopedia aims to provide a database for Egyptian and Arab scientific research in order to serve researchers in identifying ongoing research and research that still needs more research, which helps direct and rationalize applied research.

In this encyclopedia, the researcher will find complete information about every published scientific research or academic thesis, which includes the name of the author of the research or thesis, the title of the research or thesis (Master's or PhD), the college or institute in which this thesis was approved, the name of the journal in which the research was published, the year, volume number, and issue number. And pages.

39. Center for Services and Developing Technical and Architectural Skills – Faculty of Fine Arts

Objectives:

- Preparing preliminary studies for projects, as well as architectural and construction designs (such as sanitary, electricity, air conditioning, and site coordination), preparing technical specifications, general and special conditions, as well as quantities and specifications, and providing consultations, studies, reports, and information that enter into the various aspects of the center's activity.
- Providing technical assistance, participating in projects with public and private bodies and institutions, and supervising implementation.



- Conducting research and developing modern scientific methods and approaches in the field of architecture and arts to assist productive activity.
- Preparing technical and financial offers for projects in all different fields.
- Preparing a small studio, in which courses are prepared to qualify children from the age of five years in artistic skills such as drawing, sculpture, etc.
- Giving many training courses to prepare high school students and help them pass the architecture and arts aptitude exam.
- Preparing general courses for those wishing to develop interior architecture, decoration, and computer skills.
- Preparing experts to evaluate incoming and outgoing technical works at the Alexandria Sea and Air Port Authority.

Link: <https://m.facebook.com/FineArtsAlexandriaUniversity>

40. Sports Research and Information Center – Faculty of Physical Education for Boys

Objectives:

- Contributing to training community members to use modern scientific and technical methods in using computers.
- Contributing to the implementation of projects for universities, colleges and institutes affiliated with them.
- Providing advice and expertise in designing websites for colleges and educational bodies on the Internet.
- Assisting researchers in the field of scientific research and providing them with scientific advice.
- Contributing to transforming the College of Physical Education into an electronic college.

41. Fitness and Sports for All Unit at the College of Physical Education for Boys

Objectives:

- Providing various scientific courses (massage - injuries - technical preparation - studies in controlling various sports activities - sports marketing - management and organization) during the winter season for students and graduates.
- Qualifying and training students in rescue and diving activities in cooperation with the relevant authorities.
- Providing the possibility for students from the community surrounding the center to participate in various sporting activities through the summer club in exchange for a symbolic monthly subscription under the supervision of a group of qualified trainers.

Link: <https://www.facebook.com/profile.php?id=100063858544951&mibextid=ZbWKwL>

42. College of Physical Education Academies - Faculty of Physical Education for Girls

Objectives:

- Raising the physical and health level in various sports fields to maintain the general health of individuals and properly prepare future generations while learning to make good use of free time and organized thinking through the activity of the Summer Club for the children of Alexandria Governorate.
- Improving general fitness and maintaining fitness through a fitness center for neighborhood women.
- Conducting measurements for individuals and bodies and submitting reports in various measurement fields, while providing scientific equipment and places to hold training courses for various bodies.
- Developing skills in the field of computer use.
- Developing the awareness of residents of the local environment of the importance of the scientific fields offered by the college.
- Building a database to serve as an information bank that can be used in developing national and foreign programs in the fields of physical education and sports.



- Strengthening cultural and scientific ties with other universities and scientific bodies at the Arab and international levels.
- Contributing to the implementation of projects of the university and its affiliated colleges and institutes, providing them with their needs, and carrying out maintenance and repair work that falls within their jurisdiction.
- Contributing to training members of society to use modern scientific and artistic methods and teaching them in a way that achieves the advancement of thought, the advancement of science, the development of human values, and providing the state with specialists, technicians and experts in various sports fields.

Link: <https://www.facebook.com/fpeg2?mibextid=ZbWKwL>

43. Agricultural Services Center – Faculty of Agriculture – Saba Pasha

Objectives:

- Contributing and assisting with the university to fulfill its mission in the field of education and scientific research.
- Community service and environmental development.
- Holding training courses in agricultural fields and activities.
- Providing technical consultations in various agricultural fields.
- Conduct land and water analyses.

44. Educational Center for Childhood – Faculty of Education for Early Childhood

Objectives:

- Providing distinguished educational services for willing and participating children.
- Providing educational services that qualify families to deal with their children.
- Paying attention to the psychological, health and prevention aspects of children.
- Diagnosing cases of learning difficulty and developing appropriate treatment for them.
- Providing distinguished educational services to the Alexandrian community.
- The most important capabilities and achievements through the center's activities:
- First: The typical kindergarten for ordinary children, which includes halls:
- The PLAYSCHOOL hosting hall includes children from three to four years old.
- First level KG1 halls, which include children aged from four to five.
- The second level halls, KG2, includes children from five to six years old

Attention is paid to choosing the name, form and organization of the halls from an educational standpoint based on modern theories in the fields of child education and child psychology in order to achieve the goals. Emphasis is placed on the principle of integration of experience, starting from the connection of the hall and its organization in a form that is appropriate to this name, to the selection of children's identification cards in a way that is appropriate for each hall. It is expressed and work begins inside the halls with the corner system, and this is confirmed by modern educational trends by the necessity of dividing the children's hall into corners, in which the children are distributed according to their choice to work in it, and when it is finished, it moves to another corner, which is: -

o Science, nature or exploration corner:

It is one of the important pillars of the child's educational environment, as it contains objects and tools that help the child develop some scientific, mathematical concepts, linguistic and social skills through natural objects in order to create a wealth of information and answers to children's questions related to the environment surrounding them, which stimulates the child's desire to explore.

o Construction, Demolition and Cubes Corner:

The processes of construction, demolition, and assembly are of educational importance in training and educating the child on the cognitive, mathematical, scientific, and linguistic aspects at this stage, as it is possible to develop the child's abilities to match, sequence, arrange, and size, and their understanding of some scientific



concepts, including balance and stability, and the development of the ability to visual discrimination and the ability to visual motor coordination, which It supports readiness skills for reading and writing, as it helps the child develop himself positively.

o Bridal Corner, Home Corner, or Family Coexistence Corner:

It is a corner where children practice imaginative play and play various social roles. It is a mini corner of the child's home where he does his favorite activities and the children perform the roles of family members and express many inner feelings that require linguistic communication, which makes them feel psychologically comfortable.

o Technical Corner:

It means the activities of expressive art, which are considered essential. It helps the child discover different colors and helps him express his feelings through training him to control the use of materials and tools. Through the child's ability to accomplish his tasks, his self-confidence increases.

o Music Corner:

With the musical instruments, the child repeats the songs that he listens to carefully, then sings them with the teacher, recording them and listening to his voice so that he can modify the song until he masters it and participates with his classmates in singing and playing, which gives the child the desired social skills and develops his sense of music.

o Library or reading corner:

It aimed to respond to the requirements, inclinations, and needs of children to read, read, practice listening skills, and follow proper office behaviors, and this is done through books and magazines through which children practice office activities.

o Kitchen corner:

It is one of the corners in which the child participates with his teacher in preparing some simple meals and foods, such as making a cake, preparing a food item, or raising the food item. Through these practices, the child learns many manners, behaviors, and scientific and social concepts. In this corner, the child has the opportunity to directly experience things, know them, and interact directly. With it, self-activity and involving all the child's senses in learning everything inside the kitchen, as the kitchen environment is considered a field of extensive experience in foods.

Second: The model kindergarten for children with special needs:

This kindergarten accepts children with special needs and provides them with various educational and rehabilitative programs that contribute to the child's readjustment and integration into normal life within the limits of his abilities and readiness.

Third: - Child health and psychological clinic:

Faculty members specialized in the health and psychological fields at the college take care of children, whether in the Childhood Educational Center or for children who wish to participate in the environment in general, through:

- Early detection of cases of physical and mental disability and referring some of them to the relevant authorities.
- Health treatment for kindergarten-age children.
- Early detection of behavioral and psychological disorders.
- Training college students to recognize medical conditions.

Recording cases in records to extract rates and patterns of growth and development of children in the surrounding environment (Alexandria Governorate) while preparing the required awareness programs for parents. The psychological and health clinic also works to provide many activities, including: -

- Division for measuring intelligence tests for children.
- Diagnosing and treating cases of learning difficulties.
- Diagnosing and treating behavioral and psychological problems.
- Conducting communication sessions to improve communication ability.



45. Public Service Center - Faculty of Specific Education

Objectives:

- Developing general taste and satisfying artistic and musical hobbies.
- Preparing cadres in the fields of artistic and musical professions for all segments of society of all ages.
- Providing technical assistance and holding exhibitions.
- Assisting the university in performing its mission in the field of education, training and production to contribute to serving the environment and society.
- Contributing to the implementation of projects of the university, its colleges and institutes in the field of the center's specialization.
- Organizing courses in arts and music for male and female high school students to qualify them for the aptitude tests that the college holds annually.
- Conducting research and developing modern scientific methods and methods in the fields of arts, music, and home economics to assist productive activity.
- Carrying out productive work for others.
- Training on collecting information, preparing art laboratories and studios, and using computers in the arts to serve the center's activity.

46. Public Service Center – Faculty of Tourism and Hotels

Objectives:

- Assisting the university in performing its mission and supporting the educational process in accordance with the law regulating universities in the field of education, training or research, in accordance with what the law regulating universities stipulates in this regard.
- Providing the necessary consultations, studies and expertise to serve the tourism and hotel sector in the community.
- Holding and organizing training courses and workshops that aim to develop basic skills in the fields of tourism, hospitality, and tourist guidance to raise the efficiency of workers in the tourism field, such as training courses in booking airline tickets, TICKETING, tourism marketing, feasibility studies, • In the hotel field: training on the basics of hospitality, hotel business and services, front office management, food and beverage management...and others.
- In the field of tourism guidance: training tourist guides on the correct foundations of tourism guidance and learning about the tourist map of Egypt and the most important tourist and archaeological sites in Egypt.
- Holding specialized qualification courses in foreign languages (English - French - German - Italian - Spanish - Japanese - Hebrew - Russian) in a manner commensurate with the requirements of the tourism sector, which are all important languages and have qualified teachers at the college.
- management of tourist facilities, or others.