



Pharos University in Alexandria  
Vice President for Graduate Studies & Research  
International Ranking committee

# THE Impact Ranking SDG6 Report

# 6

## Clean Water and Sanitation





## SDG 6 Clean Water and Sanitation

Pharos University in Alexandria is paying a lot of attention to the clean water and sanitation issues. This is in the form of initiatives, courses, projects, and cooperation agreements. The following are some examples of the university's efforts to address clean water and sanitation.

### University management plan for water conservation:

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### Clean Water and Sanitation Events

#### Sustainability in Education Project

As part of its commitment to the Sustainability in Education Project, PUA's International Relations Department concluded an agreement with Technological University Dublin (TU Dublin), a strategic partner of PUA, to provide a professional diploma program in sustainability in education. Under this agreement, PUA nominated faculty members from various faculties to participate in the program, equipping them with the essential tools to incorporate sustainability principles into their teaching methods.

Over a duration of six months, these faculty members engaged in workshops and fulfilled assignments to augment their expertise and capabilities. Additionally, representatives from diverse faculties showcased their effective integration of sustainability principles into their instructional approaches.





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URL: <https://www.pua.edu.eg/sustainability-in-education-project/>



## Wastewater treatment

Wastewater and as per the records of the University Administration: Wastewater from washing rooms, kitchens, and laboratories is collected and channeled to a specialized company to manage the recycling process and get rid of toxic material in a safe way. The University has signed a contract with a specialized company for collection and treatment of wastewater in a sustainable way. This company was selected based on its environmental portfolio that ensures that water is reused in an environmentally friendly way. The company is responsible for treating water for reuse according to the quality of output, mainly in irrigating street trees in the neighborhood.

## Free drinking water provided

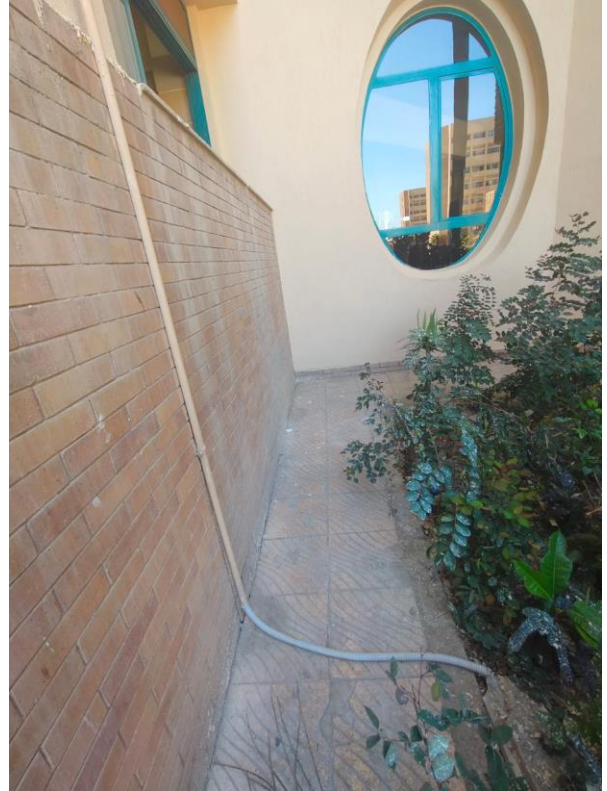
Drinking water: Drinking water quality is maintained at the University premises by installing 3-level filters at the source inlet to purify drinking water before use by university members. The amount of freshwater reused on the campus has decreased due to the above practices. The current average amount is about 2779 m<sup>3</sup> per month.





## Water Recycling Program

Wastewater is treated by recycling air conditioning water to irrigate plants across the campus by collecting AC water in bins and pipes to irrigate plants all over the campus.



AC Water Recycling Program to irrigate plants (Pharos University in Alexandria, Egypt)



## Courses that Support Clean Water and Sanitation

No	Faculty in Pharos University	Course name	Course code	SDG of relevance
1	Applied Health Sciences Technology	Environmental Health	MGEH-101	SDG 6
2	Pharmacy	Instrumental Analysis	(PCD 203)	SDG 6
3	Engineering	Water and Wastewater	ES 401	SDG 6
4	Engineering	Water treatment	EP 328	SDG 6
5	Tourism and Hotel Management	Geography of Tourism	GEN 104_T	SDG 6
6	Tourism and Hotel Management	Ecotourism	TM 371	SDG 1 - SDG 3 - SDG 5 - SDG 6 - SDG 10 - SDG 11 - SDG 12 - SDG 15
7	Tourism and Hotel Management	Tourism Impact and Sustainability	TM 354	SDG 1 - SDG 6 - SDG 7 - SDG 8 - SDG 11 - SDG 13 - SDG 14 - SDG 15
8	Tourism and Hotel Management	Safe Food Service Management	HM 434	SDG 3 - SDG 6 - SDG 12
9	Tourism and Hotel Management	Hospitality Facilities Planning & Design	HM 451	SDG 6 - SDG 7 - SDG 9 - SDG 11
10	Arts and Design	Motion Graphics (1)	MA 323	SDG 1 - SDG 6 - SDG 8 - SDG 11
11	Arts and Design	Typography (1)	GD 471	SDG 6 - SDG 7 - SDG 9 - SDG 14 - SDG 15
12	Arts and Design	Typography (2)	GD 472	SDG 6 - SDG 7 - SDG 9 - SDG 14 - SDG 15
13	Arts and Design	Typography (3)	GD 571	SDG 6 - SDG 7 - SDG 9 - SDG 14 - SDG 15
14	Arts and Design	Graduation Project Research	GD 581	SDG 6 - SDG 8 - SDG 11 - SDG 12 - SDG 13



No	Faculty in Pharos University	Course name	Course code	SDG of relevance
15	Arts and Design	Graduation Project	GD 582	SDG 6 - SDG 8 - SDG 11 - SDG 12 - SDG 13
16	Arts and Design	Digital Photography (2)	GD 462	SDG 1 - SDG 6 - SDG 8 - SDG 11 - SDG 14 - SDG 15
17	Arts and Design	Digital Advertising Design	GD 522	SDG 3 - SDG 6 - SDG 13 - SDG 14 - SDG 15
18	Engineering	Graduation Project (1)	ES 400-1	SDG 6, SDG 7, SDG 8, SDG 9, SDG 11, SDG 14
19	Engineering	Graduation Project (2)	ES 400-2	SDG 6, SDG 7, SDG 8, SDG 9, SDG 11, SDG 14
20	Engineering	Water and Waste Water Engineering	ES 401_E	SDG 6 - SDG 14
21	Pharmacy and Drug Manufacturing	Pharmaceutical Analytical chemistry III	PCD 201	SDG 6
22	Pharmacy and Drug Manufacturing	Public Health	PMD 401	SDG 6
23	Engineering	Engineering Environment and Society	HU 161!!	SDG 3 - SDG 5 - SDG 6 - SDG 7 - SDG 8 - SDG 9 - SDG 11 - SDG 12 - SDG 13 - SDG 14 - SDG 15 - SDG 17
24	Financial and Administrative Sciences	Islamic Finance	BF858	SDG 1 - SDG 2 - SDG 3 - SDG 4 - SDG 5 - SDG 6 - SDG 7 - SDG 8 - SDG 9 - SDG 10 - SDG 11 - SDG 12 - SDG 13 - SDG 14 - SDG 15 - SDG 16 - SDG 17
25	Arts and Design	Project	GD582	SDG 4 - SDG 6 - SDG 8 - SDG 9 - SDG 10 - SDG 16
26	Arts and Design	Digital Photography (2)	GD462	SDG 1 - SDG 3 - SDG 4 - SDG 6 - SDG 11 - SDG 13



## Publications that Address Clean Water and Sanitation

Title	Authors	Year	Scopus Source title	Citations	Field-Weighted Citation Impact	DOI	Sustainable Development Goals (2023)
Improved anti-biofouling resistances using novel nanocelluloses/cellulose acetate extracted from rice straw based membranes for water desalination	Morsy, A.   Mahmoud, A.S.   Soliman, A.   Ibrahim, H.   Fadl, E.	2022	Scientific Reports	19	1.83	10.1038/s41598-022-08324-8	SDG 6
Optimized Degradation of Eosin Dye Through UV-ZnO NPs Catalyzed Reaction	Farouq, R.   Ismaeel, E.K.   Monazie, A.M.	2022	Journal of Fluorescence	8	1.11	10.1007/s10895-022-02889-3	SDG 6
Adsorption study of bisphenol-A and chlorpyrifos onto nanobentonite intercalated with magnetite and sodium alginate: kinetics and isotherm models	El-Sharkawy, R.M.   Allam, E.A.   Ali, A.S.M.   Mahmoud, M.E.	2022	International Journal of Environmental Science and Technology	7	0.78	10.1007/s13762-021-03815-z	SDG 6





Title	Authors	Year	Scopus Source title	Citations	Field-Weighted Citation Impact	DOI	Sustainable Development Goals (2023)
Phenol Biodegradation and Bioelectricity Generation by a Native Bacterial Consortium Isolated from Petroleum Refinery Wastewater	Shebl, S.   Hussien, N.N.   Elsabrouty, M.H.   Osman, S.M.   Elwakil, B.H.   Ghareeb, D.A.   Ali, S.M.   Ghanem, N.B.E.D.   Youssef, Y.M.   Moussad, E.E.D.A.   Olama, Z.A.	2022	Sustainability (Switzerland)	7	0.81	10.3390/su141912912	SDG 6   SDG 7   SDG 15
New Sustainable Agenda for Slums Future Expansion, Case-Study: Ezbiit El-Matabea, Alexandria, Egypt	Ragheb, R.A.   Barakat, P.N.	2022	International Journal of Sustainable Development and Planning	6	0.61	10.18280/ijstdp.170204	SDG 3   SDG 6   SDG 11
The Optimization, Kinetics Model, and Lab-Scale Assessments of Phenol Biodegradation Using Batch and Continuous Culture Systems	Elnahas, R.A.   Elsabrouty, M.H.   Shebl, S.   Hussien, N.N.   Elwakil, B.H.   Zakaria, M.   Youssef, Y.M.   Moussad, E.E.D.A.   Olama, Z.A.	2023	Sustainability (Switzerland)	1	0.22	10.3390/su151612405	SDG 6   SDG 7   SDG 9   SDG 15
Investigation of Biosurfactants Production from Petroleum Oil Wastes Using Response Surface Methodology	Tayeb, A.M.   Mostafa, N.A.   Olfat, M.A.   Farouq, R.   Monazie, A.M.	2022	Petroleum Chemistry	0	0	10.1134/S0965544122020256	SDG 6



Title	Authors	Year	Scopus Source title	Citations	Field-Weighted Citation Impact	DOI	Sustainable Development Goals (2023)
Recycling of Conditioned Alum Sludge Use as an Adsorbent for Decolorization of Effluents From the Textile Industry	Tayeb, A.   Abdelmoez, W.   Farouq, R.   Gedawy, H.	2022	International Journal of Social Ecology and Sustainable Development	0	0	10.4018/IJSES.D.298335	SDG 6   SDG 9   SDG 12
Treatment by agricultural by-products of Industrial effluents polluted with heavy metals	Tayeb, A.M.   Farouq, R.   Mahmoud, M.A.   Daher, A.M.   Amer, T.E.   Magdy, Y.H.	2022	Indian Journal of Chemical Technology	0	0	-	SDG 6   SDG 11   SDG 12
A novel bionanocomposite from doped lipase enzyme into magnetic graphene oxide-immobilized-cellulose for efficient removal of methylene blue and malachite green dyes	Mahmoud, M.E.   El-Sharkawy, R.M.   Ibrahim, G.A.A.	2022	Journal of Molecular Liquids	34	4.24	10.1016/j.molliq.2022.120676	SDG 6
Coupling Adsorption-Photocatalytic Degradation of Methylene Blue and Maxilon Red	Farouq, R.	2022	Journal of Fluorescence	18	2.49	10.1007/s10895-022-02934-1	SDG 6



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Adsorption of $^{60}\text{Co}(\text{II})$ and $^{152+154}\text{Eu}(\text{III})$ radionuclides by a sustainable nanobentonite@sodium alginate@oleylamine nanocomposite	Abdelmonem, I.M.   Allam, E.A.   Gizawy, M.A.   El-Sharkawy, R.M.   Mahmoud, M.E.	2023	International Journal of Biological Macromolecules	6	1.24	10.1016/j.ijbiomac.2022.12.288	SDG 6
Photocatalytic Degradation of Chlorinated Hydrocarbons: The By-Product of the Petrochemical Industry Using Ag-Cu/Graphite Bimetallic Carbon Nitride	Blall, E.G.   Toderas, M.   Ezzat, A.A.   Abdou, H.A.   Mahmoud, A.S.   Shokry, F.	2023	Sustainability (Switzerland)	2	0.45	10.3390/su152216114	SDG 6
Preparation and characterization of a novel nanocomposite based on MnCr-layered double oxide and $\text{CoFe}_2\text{O}_4$ spinel ferrite for methyl orange adsorption	Rekaby, M.   Abou-Aly, A.I.   El-khatib, M.	2023	Scientific Reports	1	0.21	10.1038/s41598-023-45136-w	SDG 6
A novel $\beta$ -cyclodextrin/alginate-combined-nickel oxide nanosorbent for adsorptive remediation of $^{51}\text{Cr}$ and $^{56}\text{Mn}$ radionuclides	El-Aassar, M.R.   Gizawy, M.A.   Allam, E.A.   Ali, A.S.M.   Elsharkawy, R.M.   Mahmoud, M.E.	2022	Applied Radiation and Isotopes	1	0.18	10.1016/j.apradiso.2022.110324	SDG 6