



THE Impact Ranking SDG12 Report

12

Responsible
Consumption and
Production



M. H. Mohamed

SDG12 Responsible Consumption and Production Activities Workshops and conferences

12.1 Recycling Fabric Wastes and Scraps to Achieve Sustainability Workshop

<https://www.pua.edu.eg/?s=Recycling+Fabric+Wastes+and+Scraps+to+Achieve+Sustainability+Workshop>

As part of PUA's student activities program, the Faculty of Arts and Design organized a workshop entitled "Recycling Fabric Wastes and Scraps to Achieve Sustainability." This workshop was prepared by Dr. Marwa Issa, Lecturer in the Fashion Design Department.

Despite the increasing attention to environmental issues and conservation, fabric scraps are still being wasted throughout the various stages of design and execution. Till today, the surplus in fabric scraps has no clear mechanism to utilize it.

Therefore, this workshop presents a new vision for utilizing the remnants of fabric waste and scraps. This can be done through merging the various patterns of the fabrics with basic materials, auxiliary materials, while observing compatibility.





12.2 Recycling Pottery Using Environment-Friendly Colorants Workshop

<https://www.pua.edu.eg/?s=Recycling+Pottery+Using+Environment-Friendly+Colorants+Workshop>

The Faculty of Art and Design organized a workshop entitled “Recycling Pottery Using Environment-Friendly Colorants.” The workshop took place on Tuesday, April 19, 2022, in Room B431. It was delivered by Dr. Sherine Mokhtar, who gave a definition of this industry, its significance, and the benefits of storing food and drinks inside them. The aim of this workshop was to encourage the use of environment-friendly products and re-producing them in an innovative artistic way.





12.3 Pharos University to Foster Ties with the Industrial Modernization Centre

<https://www.pua.edu.eg/?s=Pharos+University+to+Foster+Ties+with+the+Industrial+Modernization+Centre>

Prof. Ramadan Abu El-Ala, the Vice President of Community Service and Environment Development Affairs, along with Prof. Hana Yassin, the Dean of the Faculty of Arts and Design- Pharos University held a meeting with some representatives of both branches of the Industrial Modernization Centre (IMC) in Cairo and Alexandria and the Coordinator of the Innovation Programs in Nile University and NilePreneurs Initiative. The distinguished guests included the following:

1. Hisham Mohamed Sayed Basha, the Deputy Director of the Industrial Modernization Centre (IMC)
2. Ahmed Hossam El Din, an expert in business development
3. Ibrahim Atashy Ibrahim, the Head of the Industrial Modernization Centre (IMC) in Borg Al Arab – Alexandria
4. Mohamed Abbas Gomaa, the Coordinator of the Innovation and Technological Incubators Programme.

This was held in the presence of Dr. Shaimaa Khodair, the Head of the Training Unit at the faculty of Arts and Design. During the meeting, means of cooperation were sought between Pharos University on one side and the Industrial Modernization Centre (IMC) and the whole industrial sector in Alexandria on the other side, in concern with the realm of field training as well as the implementation of the students' graduation projects. It was also discussed the possibility of the participation of Pharos University in providing solutions to some



of the problems encountered by the industrial sector in Alexandria. At the end of the meeting, Prof. Ramadan Abo El-Ala called for another meeting between Pharos University and the Industrial Modernization Centre (IMC) to work on achieving the goals of the community service sector in Pharos University and finding solutions for the problems of the industrial sector in Alexandria.



12.4 “Significance of a Vegetarian Diet on Health and Environment” Seminar

<https://www.pua.edu.eg/?s=%E2%80%9CSignificance+of+a+Vegetarian+Diet+on+Health+and+Environment%E2%80%9D+Seminar>

The Faculty of Health and Applied Science Technology organized a seminar entitled “Significance of a Vegetarian Diet on Health and Environment” on Tuesday 19/4/2022. The seminar was held under the supervision of Prof. Dr. Ezzat Hassan, Dean of the Faculty of Health and Applied Science Technology, and Prof. Dr. Hamdy Al-Wakeel, Vice Dean for Education and Student Affairs, and in the presence of several Faculty students. This event was held as part of the activities of the Scientific Committee of Student Activities Department. Dr. Duha Abu Zahra and students/ Muhammad Essam and Nada Hamida participated in the seminar by making a poster on the food pyramid for vegetarians. Students/ Rodina Adly and Sandy Mohamed also participated by explaining the benefits and harms of vegetarian diet.





12.5 Field Visit to the Alexandria Petroleum Company

<https://www.pua.edu.eg/field-visit-to-the-alexandria-petroleum-company/>

The Mechanical Engineering Department organized a field visit to the Alexandria Petroleum Company for 40 of its students from different academic levels for one full day. The students were accompanied with several Department professors.

At the beginning, the company lectured the students about the company's activities, stages of separating petroleum and distilling it into its various constituents. As well as the mechanical devices and equipment used to raise pressure, heating, evaporation, and distillation towers.

After that, engineers from the company took the students on a field tour to see what was demonstrated on the ground. It is worth noting that the company's training and human development officials commended the students' passion and interest in the practical side. As well as their good behavior and commitment during the visit.



12.6 Faculty of Engineering Organizes a Workshop: Industry 4.0 and Digital Twinning in Effective Teaching

<https://www.pua.edu.eg/faculty-of-engineering-organizes-a-workshop-industry-4-0-and-digital-twinning-in-effective-teaching/>

Due to the implications of industry 4.0, major changes occurred to the businesses that strongly affected manufacturing processes and competitive features of local and international companies, industries, and systems.

In this regard, Faculty of Engineering, PUA organized a workshop that aims at contributing in the discussion on the effect of Industry 4.0 through surveying academic and industrial viewpoints. This can be done through the application of the technologies of the 21st century Industry 4.0. These technologies include Smart Manufacturing, Industrial Internet of Things, PC-based Controls, Autonomous Things (AuT), AR/VR, Artificial Things, which are considered the core of Industry 4.0.



The workshop was followed by a general lecture for the interested students to discuss a variety of major scientific topics such as (AI, Cloud Computing, Self-Driving Cars) and their relevance to the job market.



15.7 Faculty of Legal Studies' Charity Market

<https://www.pua.edu.eg/faculty-of-legal-studies-charity-market/>

As part of the student activities, the Faculty of Legal Studies organized a charity market to distribute Ramadan supplies to the workers free of charge. The market that took place on Wednesday, April 20, 2022, at 1:00 pm, was opened by Prof. Dr. Ramadan Abu El Ala, Vice President for Community Service and Environmental Development, and Prof. Dr. Hammam Zahran, Dean of the Faculty of Legal Studies. Further, it was attended by a group of faculty members and teaching assistants, along with many students.





12.8 Qawafel Al Khair Drive off of PUA

<https://www.pua.edu.eg/qawafel-al-khair-drive-off-of-pua/>

In continuation of the annual tradition which the University's administration is keen on and based on its pioneering role in the field of community service, PUA hosted on Friday, April 1, on the university playground, the annual celebration of the Orphan's Day.

About 300 children, from 6 civil associations concerned with the care of orphans participated in the event. These associations included: "Naba'a Al Hob Charitable Society, Al Istekrar Charitable Society, Al Mutadaro'on Charitable Society, Al Qala'a Society for Community Development, Tariq Al-Khair Society for Community Development, and Mujib Al-Sayyilin Charitable Society". Furthermore, many faculty members, teaching assistants, along with a large number of students participated with great enthusiasm in organizing the event.

The children participated in the various games and activities that the Faculty of Dentistry participated in. The faculty also spread the awareness among the children by presenting them with gifts related to the prevention and protection of teeth. In a similar context, The Faculty of Engineering participated in some recreational games, while the Faculty of Arts participated in face painting and distrusting handicraft gifts. The Faculties of Languages and Translation, Tourism, and Financial and Administrative Sciences also participated in distributing gifts. The Faculty of Medical Sciences, however; provided awareness about the proper nutrition and healthy foods, in addition to distributing some gifts to children.

Moreover, the event included theatrical, musical, wizard, and Nubian skits were performed. At the end of the ceremony, meals and clothes were distributed, and, as followed in the annual tradition, commemorative group photos ware taken.



12.9 Pharos Contributions in the “Live Green” Presidential Initiative

<https://www.pua.edu.eg/pharos-contributions-in-the-live-green-presidential-initiative/>

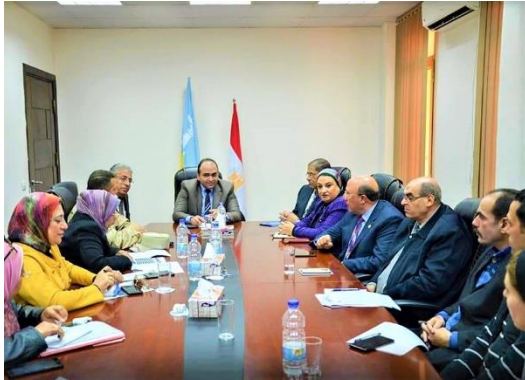
Prof. Ramadan Abu El-Ala, the Vice President of Community Service and Environment Development Affairs and Prof. Hesham El Shimy, the Director of the Community Service and Environmental Development Centre (CSED) participated in a meeting about the “Live Green” initiative. The meeting was held in Alexandria Governorate Office on Wednesday, 12 February 2020.

The meeting was attended by Mr. Ahmed Gamal, the Deputy Governor of Alexandria and representatives from all concerned authorities in the governorate. This meeting aimed to discuss the mechanisms to apply the “Live Green” initiative launched by the President of Egypt to raise environmental awareness in Alexandria. During the meeting, Mr. Ahmed Gamal stressed the importance of the consultative role of Pharos University which came within the framework of the government keenness to achieve cooperation and integration by taking advantage of the experiences of the scientific bodies in Alexandria and working hand in hand for the benefit of the governorate.

In addition, Prof. Hesham El Shimy showed the attendees a study on “Harmonic Mechanisms for Treating all Types of Wastewater to Irrigate a Sustainable Green Belt to Protect the Vicinity of Lake Mariout.” It is worth mentioning that the study impressed all the attendees and it was stressed upon the need for adopting that study by the governorate and other authorities at the local and central levels. At



the end, the Deputy Governor asked for an electronic copy of the study to put it into practice.



12.10 Intra Africa 2063 Competition

<https://www.pua.edu.eg/intra-africa-2063-competition/>

Pharos University in Alexandria organizes a virtual “Design thinking and Ideation camp” through E-Club PUA in cooperation with the African Union and the Egyptian Academy of Scientific Research and Technology, the camp targets students and graduates of PUA and African Union universities.

The camp is held from 26-29 July 2021 aiming at motivating African youth towards “Social Entrepreneurship” to trigger innovative ideas that serve the goals of development and sustainability in the African societies.

Intra-Africa 2063 Competition
 virtual workshops hand in hand by PUA, ASRT & AAU
 26/7 - 29/7/2021
 Time: GMT+1 (Pan. Egypt) Time: GMT+3 (Nigeria) Time: GMT+10 (Southern African Time) Time: GMT+3 (Pan. East African Time)
Free Event - Free Registration - Attendance Certificate - Held in English
 Registration deadline 13/7 Acceptance confirmation e-mail 20/7

The event objectives are to create innovative scientific ideas or research projects in order to serve African societies through series of four days workshops that serve one of the goals of 2063 agenda .

“ The Establishment of an AFRICAN Digital, Distance Learning University Social ENTREPRENEURSHIP ”

Specialized trainers will qualify the students to work on innovative ideas. The teams will pitch their ideas in front of a judging panel to select 1st, 2nd & 3rd place winners.

Prizes
 Platinum prize : Language course + Soft skills course
 Golden prize : Soft skills course
 Silver prize : Traditional Egyptian Kitchen course or Dubbing and Voice over course

registration link : <https://forms.gle/9F5e6C6dL64c0d8>



SDG12 Responsible Consumption and Production Activities: Proportion of recycled waste:

Indicator	Amount in Metric Ton
Amount of waste generated	23.988
Amount of waste recycled	21.108
Amount of waste sent to landfill	2.88



SDG12 Responsible Consumption and Production Activities Publications

No.	TITLE/YEAR/AUTHORS	DOI
1	Investigation of mechanical and radiation shielding characteristics of novel glass systems with the composition $x\text{NiO}-20\text{ZnO}-60\text{B}_2\text{O}_3-(20-x)\text{CdO}$ based on nanometal oxides 2020 Journal of Non-Crystalline Solids	10.1016/j.jnoncrysol.2019.119754
	El-Sharkawy, R.M. Shaaban, K.S. Elsaman, R. Allam, E.A. El-Taher, A. Mahmoud, M.E.	
	Al-Azhar University Alexandria University	
2	Characterization of the efficiency of a cubic NaI detector with rectangular cavity for axially positioned sources 2020 Journal of Instrumentation	10.1088/1748-0221/15/02/P02013
	Badawi, M.S. Nouredine, S. Kopatch, Y.N. Abbas, M.I. Ruskov, I.N. Grozdanov, D.N. Thabet, A.A. Fedorov, N.A. Gouda, M.M. Hramco, C. Abd-Elzaher, M. Hamzawy, A. Elsafi, M. El-Khatib, A.M.	
	Arab Academy for Science, Technology and Maritime Transport Beirut Arab University Umm Al-Qura University Joint Institute for Nuclear Research Lebanese University Bulgarian Academy of Sciences Academy of Sciences of Moldova Lomonosov Moscow State University Alexandria University	
3	Efficiency of a cubic NaI(Tl) detector with rectangular cavity using standard radioactive point sources placed at non-axial position 2020 Applied Radiation and Isotopes	10.1016/j.apradiso.2020.109139
	Abbas, M.I. Badawi, M.S. Thabet, A.A. Kopatch, Y.N. Ruskov, I.N. Grozdanov, D.N. Nouredine, S. Fedorov, N.A. Gouda, M.M. Hramco, C. Abd-Elzaher, M. Hamzawy, A. Elsafi, M. El-Khatib, A.M.	
	Arab Academy for Science, Technology and Maritime Transport Beirut Arab University Umm Al-Qura University Joint Institute for Nuclear Research Lebanese University Bulgarian Academy of Sciences Academy of Sciences of Moldova Lomonosov Moscow State University Alexandria University	



No.	TITLE/YEAR/AUTHORS	DOI
4	Investigation of γ -ray attenuation coefficients, effective atomic number and electron density for ZnO/HDPE composite 2020 Physica Scripta	10.1088/1402-4896/ab9a6e
	Alsayed, Z. Badawi, M.S. Awad, R. El-Khatib, A.M. Thabet, A.A.	
	Beirut Arab University Alexandria University	
5	Simultaneous analysis of chlorzoxazone, diclofenac sodium and tramadol hydrochloride in presence of three potential impurities using validated HPLC-DAD and HPTLC methods 2020 Microchemical Journal	10.1016/j.microc.2019.104505
	Ahmed, H.M. Elshamy, Y.S. Talaat, W. Labib, H.F. Belal, T.S.	
	Arab Academy for Science, Technology and Maritime Transport Menoufia University Alexandria University Damanshour University	
6	Pyrolysis of low-density polyethylene waste plastics using mixtures of catalysts 2020 Journal of Material Cycles and Waste Management	10.1007/s10163-020-01028-z
	Soliman, A. Farag, H.A. Nassef, E. Amer, A. ElTaweel, Y.	
	Alexandria University	
7	Improving urban park usability in developing countries: Case study of Al-Shalalat Park in Alexandria 2020 Alexandria Engineering Journal	10.1016/j.aej.2019.12.042
	Abdelhamid, M.M. Elfakharany, M.M.	
	Pharos University in Alexandria	
8	LEED v4.1 operations & maintenance for existing buildings and compliance assessment: Alexandria Engineering Journal	10.1016/j.aej.2020.01.027
	Bayt Al-Suhaymi, Historic Cairo 2020 ElSorady, D.A. Rizk, S.M.	
	Beni-Suef University	



No.	TITLE/YEAR/AUTHORS	DOI
9	Effect of drag reducing polymers and impeller geometry on the rate of mass and heat transfer at the wall of a cylindrical stirred tank reactor in relation to catalytic reactor design 2020 Alexandria Engineering Journal	10.1016/j.aej.2020.01.025
	Shokry, F. Abd Elfattah, M. El-Gayar, D.A. Farag, H.A. Sedahmed, G.H.	
	Alexandria University	
10	Extensive theoretical study of gamma-ray shielding parameters using epoxy resin-metal chloride mixtures 2020 Nuclear Technology and Radiation Protection	10.2298/NTRP2002138M
	More, C.V. Pawar, P.P. Badawi, M.S. Thabet, A.A.	
	Beirut Arab University Dr. Babasaheb Ambedkar Marathwada University Alexandria University	
11	Centralized dynamic channel reservation mechanism via SDN for CR networks spectrum allocation 2020 IEEE Access	10.1109/ACCESS.2020.3032666
	El Azaly, N.M. Badran, E.F. Kheirallah, H.N. Farag, H.H.	
	Arab Academy for Science, Technology and Maritime Transport Alexandria University	
12	Functionalization of CeO ₂ -SiO ₂ -(CH ₂) ₃ -Cl nanoparticles with sodium alginate for enhanced and effective Cd ^{II} , Pb ^{II} , and Zn ^{II} ions removal by microwave irradiation and adsorption technique 2020 Environmental Nanotechnology, Monitoring and Management	10.1016/j.enmm.2020.100367
	El-Sharkawy, R.M. Allam, E.A. Mahmoud, M.E.	
	Alexandria University	
13	New mathematical approach to calculate the geometrical efficiency using different radioactive sources with gamma-ray cylindrical shape detectors 2020 Nuclear Engineering and Technology	10.1016/j.net.2019.11.022
	Thabet, A.A. Hamzawy, A. Badawi, M.S.	
	Beirut Arab University Umm Al-Qura University	



No.	TITLE/YEAR/AUTHORS	DOI
14	Evolutionary computation technique enhancing the performance of cognitive radio networks with energy harvesting 2020 Ad Hoc Networks	10.1016/j.adhoc.2020.102254
	El-Malek, A.H.A. Aboulhassan, M.A. Abdou, M.A.	
	City for Scientific Research and Technology Applications Egypt-Japan University of Science and Technology	
15	Nano-manganese oxide-functionalized-oleyl amine as a simple and low cost nanosorbent for remediation of ZnII/CoII and their radioactive nuclides 65Zn and 60Co from water 2020 Applied Radiation and Isotopes	10.1016/j.apradiso.2019.108989
	Mahmoud, M.E. Allam, E.A. El-Sharkawy, R.M. Soliman, M.A. Saad, E.A. El-Khatib, A.M.	
	Ain Shams University Egyptian Atomic Energy Authority Alexandria University	
16	New video encryption schemes based on chaotic maps 2020 IET Image Processing	10.1049/iet-ipr.2018.5250
	Elkamchouchi, H. Salama, W.M. Abouelseoud, Y.	
	Alexandria University	
17	Room temperature synthesis of aqueous ZnCuInS/ZnS quantum dots 2020 Journal of Dispersion Science and Technology	10.1080/01932691.2019.1645022
	El Nady, J. Ali, M. Kamel, O.A. Ebrahim, S. Soliman, M.	
	City for Scientific Research and Technology Applications Alexandria University	
18	Validated Capillary Zone Electrophoretic Method for Simultaneous Analysis of Benazepril in Combination with Amlodipine Besylate and Hydrochlorothiazide 2020 Acta Chromatographica	10.1556/1326.2019.00686
	Ahmed, H.M. Belal, T.S. Shaalan, R.A. Yazbi, F.A.E. Elonsy, S.M.	
	Menoufia University Alexandria University Damanhour University	



No.	TITLE/YEAR/AUTHORS	DOI
19	Optimization of photocatalytic degradation of methylene blue dye using titanate nanotube 2020 Journal of Nanophotonics	10.1117/1.JNP.14.026008
	Tayeb, A.M. Hussein, D.S. Farouq, R.	
	Minia University	
20	A flexible ergonomic redesign of the sewing machine workstation 2020 Research Journal of Textile and Apparel	10.1108/RJTA-10-2019-0050
	Eladly, A.M. Abou-Ali, M.G. Sheta, A.M. EL-Ghlomy, S.H.	
	Alexandria University	
21	Antibacterial activity of some nanoparticles prepared by double arc discharge method 2020 Nano-Structures and Nano-Objects	10.1016/j.nanoso.2020.100473
	El-Khatib, A.M. Doma, A.S. Abo-Zaid, G.A. Badawi, M.S. Mohamed, M.M. Mohamed, A.S.	
	City for Scientific Research and Technology Applications Beirut Arab University University of Sadat City Alexandria University	
22	Validated spectrofluorimetric method for determination of mirabegron by utilizing its quenching effect on acetoxymurcuric fluorescein reagent 2020 Part A: Molecular and Biomolecular Spectroscopy	10.1016/j.saa.2020.118509
	Morshedy, S. Omran, G. Abdulatef, O.A. Omar, M. Talaat, W. Spectrochimica Acta -	
	Damanhour University	
23	The Inhibitory Effect of Wheat Husks Addition on Aflatoxins Production by Aspergillus flavus in Liquid Culture With Various Wheat Compositions as Carbon Sources 2020 Frontiers in Microbiology	10.3389/fmicb.2020.01448
	Ghanem, K.M. Lotfy, W.A. El-Shaer, M.M. Elassar, S.A.	
	Alexandria University	



No.	TITLE/YEAR/AUTHORS	DOI
24	Thermal and potentiometric studies for complexes of Zr and Hf with some barbituric acid derivatives 2020 IOP Conference Series: Materials Science and Engineering	10.1088/1757-899X/975/1/012015
	Masoud, M.S. Hassan, A.S. Desouky, N.M. Kamel, H.M. El-Kholany, A.S.	
	Alexandria University	
25	Gradient HPLC-DAD method for quantification of novel oral anticoagulant "Edoxaban" in plasma: Its selective determination in presence of sixteen co-administered drugs 2020 Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences	10.1016/j.jchromb.2020.122386
	Younis, S.E. El-Nahass, S.A. Elkhatib, M.A.W. Soliman, S.A. Youssef, R.M.	
	Alexandria University	
26	Mapping UML sequence diagram into the web ontology language OWL 2020 International Journal of Advanced Computer Science and Applications	10.14569/IJACSA.2020.0110542
	Elsayed, M. Elkashef, N. Hassan, Y.F.	
	Alexandria University	
27	Assessment of coverage quality of sensor networks for IoT applications 2020 Peer-to-Peer Networking and Applications	10.1007/s12083-019-00796-2
	Elsaadany, A. Khalil, K.	
	Pharos University in Alexandria	
28	A Fuzzy, Incremental and Semantic Trending Topic Detection in Social Feeds 2020 Abou-Of, M.A. 2020 11th International Conference on Information and Communication Systems, ICICS 2020	10.1109/ICICS49469.2020.239492
	Ashour, M.W. Khalid, F. Halin, A.A. Darwish, S.H. Abdulrazzaq, M.M.	
	Pharos University in Alexandria	



No.	TITLE/YEAR/AUTHORS	DOI
29	A review on steel surface image features extraction and representation methods 2020 Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST	10.1007/978-3-030-60036-5_17
	Universiti Putra Malaysia International Islamic University Malaysia	
30	The influence of social media marketing on consumer purchase intention of fresh produce in Egypt 2020 Proceedings of the 7th European Conference on Social Media, ECSM 2020	10.34190/ESM.20.009
	Ragab, I. Ragab, M.A.F.	
	Pharos University in Alexandria	
31	Comparison study for extraction of oil from oil shale 2020 Journal of Engineering and Applied Science	-
	Soliman, A. Nassef, E. Abu Alala, R. Eltaweel, Y.	
	Alexandria University	
32	Evaluating the legibility of complex buildings: A quantitative model for indoor wayfinding 2020 WIT Transactions on Ecology and the Environment	10.2495/SC200121
	Ahmed, S.H. Taha, D.S. Hasan, A.E.	
	Alexandria University	
33	Predicting Stock Market Trends for Japanese Candlestick Using Cloud Model 2020 Advances in Intelligent Systems and Computing	10.1007/978-3-030-44289-7_59
	Madbouly, M.M. Elkholy, M. Gharib, Y.M. Darwish, S.M.	
	Alexandria University	
34	Analysis of MHD slightly rarefied gas flow over a permeable stretching surface based on second-order velocity slip 2020 International Journal of Modern Physics C	10.1142/S0129183120501806
	El-Khatib, M. Megahed, A.M.	
	Benha University	



No.	TITLE/YEAR/AUTHORS	DOI
35	Sustainable Touristic path toward cultural identity 2020 Journal of Engineering Research	10.21608/erj.2020.145854
	Ragheb, R.A. Naguib, I.M.	
	Pharos University in Alexandria	
36	Raw gas oil production from waste plastic by vacuum pyrolysis 2020 Journal of Engineering and Applied Science	-
	Nassef, E. Soliman, A. Farag, H.A. Eltaweel, Y. Amer, A.A.	
	Alexandria University	
37	Specifying a program control path using flow diagram translated into description logic of ontology engineering 2020 ICIC Express Letters	10.24507/icicel.14.05.497
	Ibrahim, S. Hassan, Y.F. Kholief, M.H.	
	Arab Academy for Science, Technology and Maritime Transport Alexandria University	
38	The effect of using baffles on the rate of mass transfer of a cylindrical stirred tank reactor 2020 Materials Science Forum	10.4028/www.scientific.net/MSF.1008.168
	Shokry, F. El-Gayar, D.A. Elfattah, M.A. Farag, H.A. Sedahmed, G.H.	
	Alexandria University	
39	Green HPTLC and stability-indicating RP-HPLC for the assay of dextromethorphan hydrobromide and menthol in their lozenges 2020 Annales Pharmaceutiques Francaises	10.1016/j.pharma.2020.04.006
	Ragab, M.A.A. El Yazbi, F.A. Hassan, E.M. Khamis, E.F. Hamdy, M.M.A.	
	Alexandria University	



SDG12 Responsible Consumption and Production Activities Courses

No	Faculty in Pharos University	Course name	Course code	SDG of relevance	Topics in each course
1	Applied Health Sciences Technology	Development and Regulation of Medical Products	MGDR-101	SDG12	Responsible consumption and production methods
2	Applied Health Sciences Technology	Ethical and Legal Issues in Health Fields	MGME-101	SDG12	Wellbeing and living standards
3	Pharmacy	Environment and sustainability	PMC E01	SDG12	Sustainable ecosystem services
4	Pharmacy	Project in Pharmacognosy & Natural Products	PG E08	SDG12	Sustainable use of natural resources
5	Pharmacy	Good Manufacturing Practices	PPC E02	SDG12	Responsible production consumption techniques in pharmaceutical industry
6	Pharmacy	Natural Cosmetics	PGD E01	SDG12	Sustainable use of natural resources
7	Pharmacy	Herbal medicine	PGD E02	SDG12	Sustainable use of natural resources
8	Pharmacy	Sustainability in Therapeutics	PLD E03	SDG12	Sustainable use of natural resources
9	Tourism	Consumer Behavior in Tourism and Hospitality (Elective)	THM 162	SDG12	Responsible consumption and production methods
10	Tourism	Current issues in food service (Elective)	HM 336	SDG12	Healthy food for wellbeing, consumption reduction
11	Tourism	Safe Food Service Management	HM 434	SDG12	Healthy food for wellbeing, consumption reduction
12	Engineering	Energy Systems	EE 271	SDG12	Studying the availability of using PV arrays in residential & commercial areas



No	Faculty in Pharos University	Course name	Course code	SDG of relevance	Topics in each course
13	Engineering	Material science	EP 217	SDG12	This course introduces the students to Classification of engineering materials, atomic and molecular structure. The course focuses on polymer properties and modification for special applications.
14	Engineering	Introduction to environmental engineering	EP 389	SDG12	The course introduces engineering aspect with complete environmental assessments of the impacts
15	Business	Consumer behavior	BF 746	SDG12	The course focuses on issues related to the behavior of consumption and production and means to rationalize consumption