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

THE Impact Ranking
SDG10 Report

10
Reduced Inequalities

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Scholarships to Support Students in Need

In congruence with this goal, Pharos University supported some students in-need with full scholarships, and others with waiving students fees up to 50% depending onsocial assessments https://www.pua.edu.eg/pua-admission/scholarships-and-tuition-waivers/ and https://www.pua.edu.eg/pua-admission/tuition-fees/.

In the academic year 2021-2022, there were 32 scholarships and tuition fees waiving (Table 1) to both males and female students in almost all faculties. According to private and confidential social assessments carried out for each student, the amount of waiving of fees is determined that ranged between 10% to 50%.

Table 1. Number of students in need that are supported by Pharos University in the Academic year 2021-2022

Faculty	Male	Female	Total
Pharmacy and Drug Manufacturing	5	3	8
Dentistry	6	2	8
Engineering	4	2	6
Financial and Administrative Sciences			0
Languages and Translation			0
Legal Studies			0
Tourism and Hotel Management			0
Physical Therapy	3	7	10
Mass Communication			0
Applied Health Sciences Technology			0
Arts and Design			0
Total	18	14	32

Table 2. Number of students with disabilities that are supported by Pharos University inthe Academic year 2021-2022

	Male	Female	Total
Pharmacy and Drug Manufacturing			0
Dentistry			0
Engineering	18	4	22
Financial and Administrative Sciences			0
Languages and Translation	1	5	6
Legal Studies	5	1	6
Tourism and Hotel Management	3	1	4
Physical Therapy	2	4	6
Mass Communication	7	4	11
Applied Health Sciences Technology	2	0	2
Arts and Design	4	7	11
Total	42	26	68

Reduced Inequalities Activities

1. Orphans day celebration

The students and faculty members of PUA celebrated Orphans Day. The coordination was made between the Community Services and Environment Development Affairs and six charities. The ceremony was held at those charities. On 9th and 10th of April 2021, PUA formed six groups comprised of students, faculty members and coordinators of the student activities to visit those charities and give the orphans toys, gifts and clothes that had a good impact on children and staff. It is worth mentioning that the students were excited and happy for participating in this charity work. The visits were divided as following:

On Friday, 9 April 2021:

"Tarek ElKhair" Community Service, Sidi Gaber.
"Al mutadarieun" Community Service, Rabaa El Nasria, Abis.
"El Qalaa" Community Service, Awayed.
"Kfalet El Yatem" Community Service, Ezbet Fathi.
On Saturday, 10 April 2021:

"Nabaa El Hop" Community Service, El Hadra El Gadida.
"El Estqrar" Community Service, Zawya Abd El-Qader, Al Amaria.

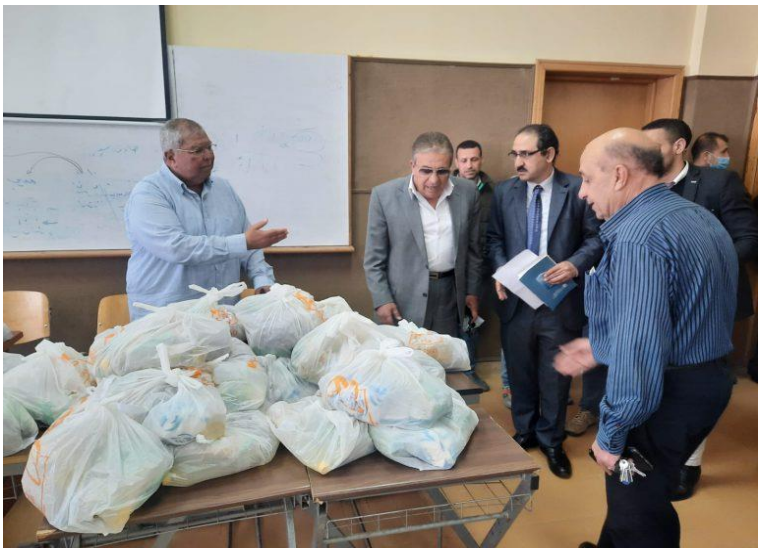
Pharos University Celebrated Orphans Day

2. Qawafel Al Khair Drive of PUA

In continuation of the annual tradition accustomated by Pharos University management, and implemented and followed-up by the Board of Trustees headed by Eng. Alaa Ragab, Chairman of the Board of Trustees, 7 charitable convoys (Qawafel Al Khair) were dispatched to several areas in Alexandria. The convoys included student activities supervisors, some faculty members, and many students, who participated in this charitable work with great enthusiasm. In addition to the participation and supervision of Prof. Dr. Ramadan Abu El-Ala, Vice President of the University for Community Service and Environmental Development. The convoys covered the areas of Bahri, Souk al-Turk (Ras Al Tin Society), Abis (Al Mutadaroon Society) and (Mujib al-Sayyelin Society), Al Hadra Al Gadida, Zohour Street (Naba'a Al Hob Society), Sidi Gaber (Tariq Al Khair Society), Al Awayed (Al-Qalaa Society), and Al-Amiriya (Al Istikrar Society). This activity comes within the framework of the administration's keenness to implement its role in developing the students' spiritual and moral values. In addition to promoting the value of loyalty, sense of belonging, and societal involvement, which all were clearly reflected through the students' enthusiasm to participate, and their happiness in performing these charitable works.

Qawafel Al Khair Drive of of PUA

3. 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, 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 a large number of students.

Faculty of Legal Studies' Charity Market

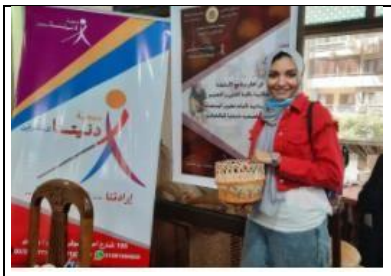
4. A field visit to the association of "Donitna" for blinds for redeveloping handicrafts

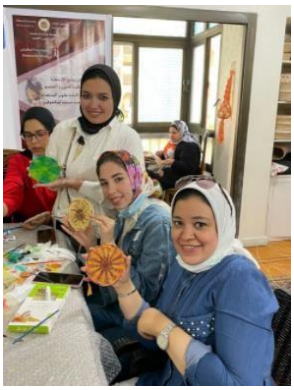
Under the student activities programme of the faculty of arts and design, afield visit was coordinated to redevelop the handicrafts of Donitna association for blinds. It aims to provide students with information about welfare and social development organization in terms of its objectives andall the services it provides, and to make students aware of the need for active participation in the most basic tools that can be effective to add a lotneeds of others and to fill the disability of those unable in society.

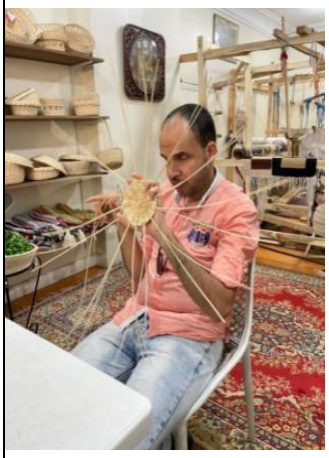
It was on Saturday 9-10-2021 in the special care home for blind persons where they were directed to teach them bamboo handicrafts and handmadecarpets. After students learned and discussed how to develop products, some products were selected with appropriate designs and implementationusing acrylic colours. Students added different artistic and aesthetic touches to the products which was well received by the community and the day ended with students feeling happy

https://www.pua.edu.eg/a-field-visit-to-the-association-of-donitna-for-

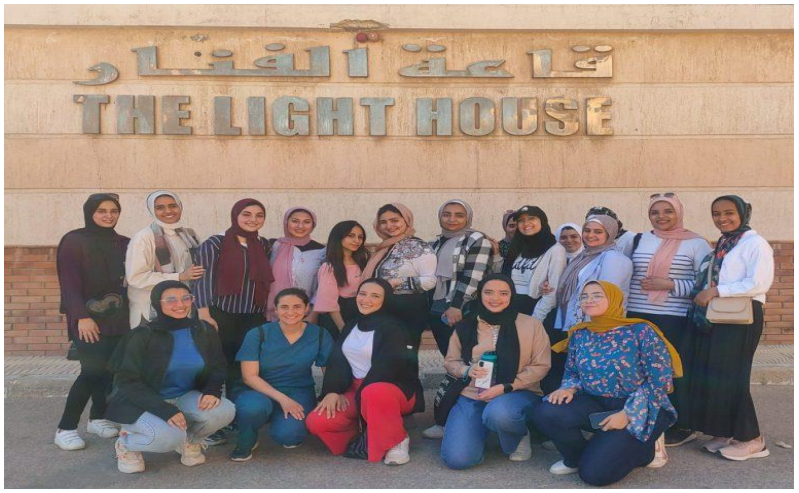
blinds-for-redeveloping-handicrafts/







5. Sports Activities and Courses for females



As part of its interest in organizing sports activities and courses, the Student Activities Department organized several programs, including (Aerobics – Fitness – Yoga) programs. These programs are designed specifically for the university female students, faculty members, and teaching assistants. they are held twice a week with the participation of female students from most of the university's faculties.

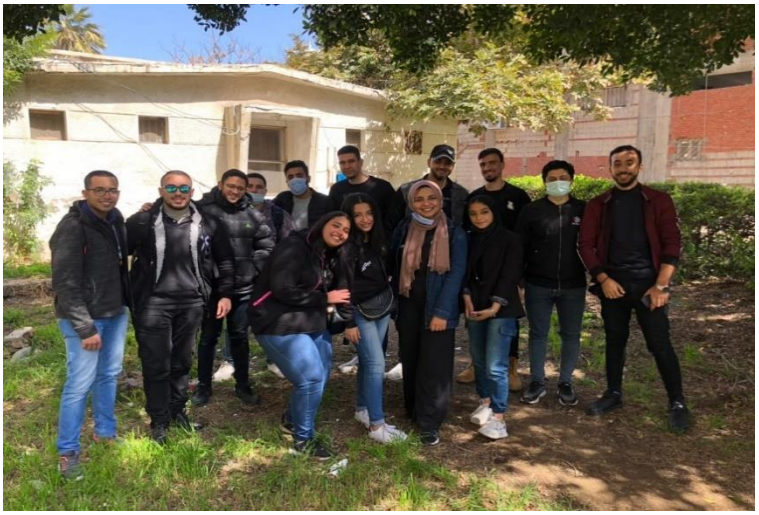
Sports Activities and Courses

6. Do Understand Me short film

The Faculty of Mass Communication produces a short film on deafness and hearing impairment (Do Understand Me) which addresses different activities of persons with diasbilities and how to include them day to day living conditions

https://www.youtube.com/watch?v=HwoLx5Q3gvE&list=PLsZ1HNiwxSAPBp9Ff74mHK1NbRVLCp-52&index=9

7. Faculty of Engineering Visits a Nursing Home



Within the framework of Pharos University's keenness to play its role in community service, the Community Service Committee of the Faculty of Engineering, in cooperation with the Student Activities Committee and the Khair Team Family, organized a visit to the Health Improvement Home in Al Ras Al-sawdaa on Sunday, March 27, 2022. The visit was under the supervision of the Activities Department, along with a number of Faculty students and Khair Team Family, with the supervision of Eng. Amr Mamdouh, Teaching Assistant, Department of Mechanical Engineering, Faculty of Engineering. The students celebrated with the home mothers on the occasion of Mother's Day.

Faculty of Engineering Visits a Nursing Home

10.2. Projects of students

Stair Climber

Abstract: The project introduces an engineering, practical, daily, easy in use solution for all wheelchair users, who suffer in public buildings or evenin streets daily as stairs represent a barrier to their transportation that can't be crossed unless an external and a strong hand is provided.

A detailed engineering machine is designed to ascend and descend any public steps safely and automatically without any external help, to be practical during daily life for users, to be controlled using bottoms without complexity. The project was divided into six stages: brain- storming stage, filtration stage, try and error stage, design stage, calculation stage and building a prototype.

The project idea was carefully chosen after discussing different ideas with different applications and concepts, in the brain-storming stage in meetings. Each of which was being analyzed mechanically, mathematically, and financially with an engineering perspective to conclude which idea was to be chosen which made the filtration stage easier and faster.

Proposed ideas were filtered and finally the wheelchair proposed mechanism was selected. Due to thelatest launch of such a product in the world, no strong references were found, try and error stage took place. Before working on the final mechanism, several mechanisms were rejected due to some faced problems, either in factor of safety, overall efficiency, or unsuitable physical dimensions.

The stair-climber was designed from scratch in the design stage. AutoCAD drawings for the chosen design were to be completed, Therefore, mechanical mechanisms were built up together andconnected to invent the required relative motion which is the main key to the main goal of the project. All necessary calculations were done in the final stage.

After the design is drawn in details, calculations were done to identify accurate physical dimensions corresponding to applied forces, electrical motors power corresponding to the required torque, battery capacity suitable for the application and according to recharging time andcontinuous working time in addition to force and stress analysis for criticalparts used.

The aim, behind the project, is to practice designing and building up one detailed machine with a helpful purpose for humanity. A machine that facilitates daily actions and affords life for those who thought they couldn't have one, then they

can resume their lives, participate freely in society, and have the basic qualifications to get a job. Not only that, but also to practice on some software programs mainly AutoCAD and Mathcad. In addition to afford such invention to our home country with a lower price compared to launched products which costs around 15,000 euro, approximately equivalent to 287,900 Egyptian pounds and it is estimated to launch the chair here in Egypt with average 45,000 Egyptian pounds only.

The thesis is organized as follows: Chapter (1) (Introduction)

1.1 Brainstorming: Introduces initial steps done in meetings, brainstorming stage took place, time, and effort. Proposed machine ideas were carefully analyzed mechanically, mathematically, and financially with respect to the engineering perspective.

1.2 Wheelchair: Clarifies the benefits and additions the wheelchair affords to human life, and what it capable of adding to humanity. Explains what a wheelchair is, how humanity needs them, what are the rights of wheelchairs and how does they affect the economy.

1.3 Stair Climber: Explains how wheelchair users still suffer and have barriers during transportation, what makes transporting across the city using a wheelchair difficult and what might be the problem when help is asked. It is explained the right technique as well to ascend and descend a wheelchair user stair without slipping or damage. It is clarified what updates are recommended to be done and what benefits humanity is gaining from the recommended update. Chapter (2) (Try and error stage) After the machine application was carefully chosen, not only to be learnt but also to be a great addition to humanity and affords lives for those who are in need. According to the progress it was the turn to estimate what mechanisms and design is preferred to be studied among the proposed designs. All proposed designs were mentioned, briefly explained, besides the noticed advantages and disadvantaged were explained logically. Some designs already exist, and it was marked.

Chapter (3) (Stair-Climber Design) 3.1 Standards: 3.1.1 Steps and Stairs Standards Listing international standards needed to be known and taken as main reference, regarding the step's dimensions, inclination, and detailed information. 3.1.2 Disabled Chair Standards According to the World Health Organization (WHO), there is some restriction should be kept in mind during designing a wheelchair for the sake of the user. They are listed and clarified. 3.2 Stair Climber Design:

The chosen mechanism was to be in detail drawn and clarified using SolidWorks drawings. All main mechanisms were clarified and explained, in additional to a drawing for the assembly. The machine consists of threemain mechanisms that were to be in detail explained, clarifying each component concept and function. All parts were illustrated with detailed drawing. 3.2.1 Belt Mechanism 3.2.2 Balancing Mechanism 3.2.3 Wheel Mechanism Chapter (4) (Calculation) Calculations were done using Mathcad. To estimate motor power, material requirements, stress
analysis, force analysis…etc. Chapter (5) (Prototype) The chapter includessome captured pictures, that were taken during the process of building the prototype.

10.3. Courses in the curricula

Faculty	Course name	Course code	SDG-relevancy	Topic
Pharmacy	Pharmacotherapeutics for special population	PL E23	SDG 10	Wellbeing of special needs population
Pharmacy	Home health care	PN E19	SDG 10	Wellbeing of women health at home
Artificial intelligence	Speech recognition	AI402	SDG 10	Education for special needs to reduce inequalities
Artificial intelligence	Language processing	AI407	SDG 10	Education for special needs to reduce inequalities
Physical Therapy	Public Health	PTBA 216	SDG 10	Good health of society particularly for poor
Physical Therapy	Psychology of Handicapped	PTBA 217	SDG 10	Psychic problem and treatment
Law	Labor and social security law	LV 06	SDG 10	Social security issues
Business	Business and society	BF 747	SDG 10	The course discussed the relationship between business and society in terms of achieving equality through social corporate responsibility