



ZIAUDDIN UNIVERSITY



SIR DR. ZIAUDDIN AHMED

THE VERSATILE EDUCATIONIST

Sir Dr. Ziauddin Ahmad left a lasting impact on the subcontinent. He was an eminent educationist, scholar, visionary and inspiration to many. Born in 1873 in Meerut, India, his success story began at the age of 12 when he attained First Division in high school. Dr. Ziauddin also received a Lang medal along with a government scholarship at Aligarh M.A.O College. In 1895 he secured First Position in Bachelor of Arts (B.A) and received the coveted Shachey Gold Medal at Aligarh M.A.O College. After completing B.A in Mathematics, Dr. Ziauddin Ahmad was appointed as the assistant lecturer in Aligarh M.A.O College – the same institute that enabled him to take his passion further. He then attained a Master of Arts (M.A) degree from the University of Calcutta. In 1901, he achieved a Doctor of Science (D.Sc. degree in mathematics from the University of Allahabad. He then enrolled himself in the Trinity College at Cambridge University and achieved the prestigious Sir Isaac Newton scholarship - an honor no other Indian had attained. With a PhD in Mathematics, Dr. Ziauddin Ahmad aspired to raise the standard of education within the subcontinent. He also worked as an Assistant Secretary for the Sir Syed Memorial Fund. Since he was inspired by Sir Syed Ahmad Khan's approach towards modern tutelage, he dedicated himself to creating a liberal teaching system for the Muslims of India. Dr. Ziauddin was appointed as the very first Pro-vice chancellor of Aligarh Muslim University. He took over as vice-chancellor in 1935. On December 23, 1947, his journey of spreading literacy, higher education, and the ability to critically analyse information came to an end. He was buried beside Sir Syed Ahmad Khan in the Aligarh Muslim University Mosque premises, thus fulfilling his pledge of serving Aligarh for life.

SUSTAINABILITY REPORT

2022

ABOUT ZIAUDDIN UNIVERSITY

Ziauddin University was established in the memory of Sir Dr. Ziauddin Ahmad, a renowned academician, philosopher, mathematician and political figure. His vision was to spread quality education amongst the Muslims of the subcontinent. Ziauddin University is recognised by the Higher Education Commission (HEC). The Ziauddin Group started its mission with a small maternity home in Nazimabad, Karachi, formed by Sir Dr. Ziauddin's daughter, Dr. Ajaz Fatima, and his son-in-law Dr. Tajammul Hussain. Over the years, the maternity home expanded into the Ziauddin Group of Companies. The group has three tertiary care hospitals, several community-based projects, a live radio channel, and a university. In 1986, the Ziauddin Group established the School of Nursing, an institute recognised by the Pakistan Nursing Council. In 2009, the School of Nursing expanded into college. It now offers various programmes for graduate and undergraduate students. In August 1994, the Government of Sindh granted permission for the establishment of the Dr. Ziauddin Postgraduate Institute of Medical Sciences. By the virtue of this ordinance, the institute could grant its own postgraduate degrees and diplomas. In October 1995, the Sindh Assembly passed an Act (VI of 1995) for the establishment of Ziauddin Medical University. At that time, the University established an association with the neighboring community to set up a health centre. This initiative resulted in a mutual partnership with the Karachi Municipal Catchments Population. On December 13th, 2005 Ziauddin Medical University was given the Charter as Ziauddin University vide 'The Ziauddin University (Amendment ACT 2003). It initially started growing in the field of medical sciences, but as time went by, the university proved itself to be a diverse institution. ZU is currently offering degrees in Medicine, Pharmacy, Biomedical Engineering, Allied Health Sciences, Media and Communications, Physical Therapy, Nursing, Dentistry and Speech, and Language & Hearing Sciences. Going forward, the University plans to introduce programmes in Audiology, Business Administration and Fine Arts. The aim is to form an institution that not only promotes the vision of Sir Dr. Ziauddin Ahmad but educates the youth of Pakistan at the same time.

Ziauddin University Striving Efforts for Sustainability

To be recognized as the icon of the innovative, leading-edge educational institute that endeavors to international sustainability efforts for the Environment, Economy, and Equity.

Ziauddin University represents its firm commitment to become a Sustainable & Internationally acclaimed educational entity, hence its Quality Enhancement Cell does its utmost to work on all essential criteria to represent the University in Green metric Ranking.

Sustainable University in a Changing World: Lessons, Challenges and Opportunities

- It contributes to academic discourses on sustainability in education and the greening of campus.
- It promotes university-led social change regarding sustainability goals and as a tool for self-assessment on-campus sustainability for higher education institutions (HEIs) around the globe.
- It will be evident to inform governments, international and local environmental agencies, and the society about sustainability.
- It is based on the concept of Environment, Economy & Impartiality to achieve development goals.
- It is devised to help the university for internalization, recognition benefit, and to address global challenges.

Benefits of Sustainability

- Internationalization and Recognition
- Increased Awareness of Sustainability Issues
- Social Change and Action
- Networking
- Environment Friendly

Save Earth Save Life



Sustainability, by definition, is at the intersection of economic, social and environment interests.

1. Setting and Infrastructure (SI)



Ziauddin University, Plot No.33, Behind KPT Hospital, Kemari, Karachi



Ziauddin University, Village Derha, Shikarpur Road, Sukkur, Pakistan.



Ziauddin University Clifton: 4/B, Shahrah-e-Ghalib, Block 6, Clifton Karachi.



ZU Block-B, North Nazimabad, Karachi.



ZU Education City Link Road Campus, Karachi.

Setting and Infrastructure (SI)

Ziauddin University is a specialized higher education institution and has 4 multi-regional sites in Karachi and 1 campus in Sukkur in the province of Sindh, Pakistan. The campus setting of Ziauddin University is urban. Link road site is a modern purpose-built campus with free transportation services for students and staff. All sites are energy efficient and environment friendly. Ziauddin University is well reputed in parting with quality education and expanding across the country and province. Therefore, Ziauddin University established its campus in Sukkur. Its sites and campuses are expanded at an area of 347260.76-meter sq. Sukkur campus meets all the criteria of a smart campus as green and clean campus is the motto of ZU. ZU has also opted a land of 82312-meter sq. at Islamabad for their future expansion Ziauddin University focused on a green environment, planted vegetation, Safety and reduction in wastage and energy consumption on campus. That is why ZU has designed its campuses with keen focus on green building implication.

Infrastructure of Ziauddin University is designed in a sustainable way. Campuses are constructed in eco and environment friendly manner such as open court, Air ventilation system that helps usage of daylight the most or efficient use of natural resources. Campuses are built purposely pedestrian friendly to reduce carbon emission and prevent pollution. All the campuses are aligned with smart implementation of appliances such as LED, solar panels, LED Lighting, Inverters, RO Plants, water and waste recycling programs etc.

Sustainable infrastructure of Ziauddin University supports day to day functions and assists in integrating the natural environment.

- Total Campus Area of Ziauddin University is **429572.76** square metre.
- Total Campus building Area of Ziauddin University is **139695.76** square metre.
- Ratio of open space towards total area: **89.41%**

Ziauddin University is highly focused on green implementation that is why they have developed a horticulture department who is responsible for forest vegetation, planted vegetation and green house plantation etc. They are working day and night to make the environment clean and green. They also make collaboration of ZU with Sindh Forest Department (SFD) which is under the Green Pakistan Programme for Urban Forest Tree Plantation. In this Collaboration SFD will provide environment friendly plants, labor and technical assistance, guidelines and protection of provided plants to the land of Ziauddin University Link Road Site. Ziauddin University is providing their land for the plantation on a large scale. ZU will provide water and proper maintenance to Urban Forestry Plantation.

- Total forest vegetation area at Ziauddin University is **165196.65 m²**.



Urban Forest Area marking fo plantation in Collaboration with Sindh Forest Department



Ziauddin University Urban Forest Vegetation Area

- Total planted vegetation area covered at Ziauddin University is **66932.04 m²** that is a total of **15.58%**.





Planted Vegetation Area Ziauddin University

- The total area on campus for water absorption besides forest & planted vegetation is **100430.62 m²** that is around **23.38 %**.
- Total estimated Population of Ziauddin University is more than 5000 including employees and Students. Hence, total open space divide by total campus population is **> 70 m²/person**.
- As infrastructure is central to sustainable development therefore, to meet the requirement of sustainable equipment and system the average percentage of University's budget for sustainability effort is **22.37 %**.

- Percentage of Operation and Maintenance activities during a year is **51%**.



Construction of New building at ZU Link Road Site



Solar Panel Cleaning & Maintenance at ZU-KDLB Site



Solar Panel Installation at Ziauddin Sukkur Campus



Solar Street Lights Installation at ZU Sukkur Campus



Fire & Emergency Rescue Cell Construction at Link Road Site



Animal Farm Construction at Link Road Site



Solar Street Lights Installation at ZU Link Road Site

Example of **operation and maintenance activities during a year**

Campus facilities for disable, special needs and or maternity care

Ziauddin University provides the following facilities for disable, special needs and/or maternity care. These are as follows:

- Ziauddin Group established tertiary care hospitals such as Dr. Ziauddin Hospital North Nazimabad, Dr. Ziauddin Hospital Clifton and Dr. Ziauddin Hospital KDLB. In addition, Dr. Ziauddin Hospital Sukkur is in process.
- Health & Infrastructure facilities of Ziauddin University are available to all their academic and non-academic staff and their dependents with full coverage of IPD, OPD, Maternity, accidental and emergency care.
- Wheelchair Ramps available at each building for disabled people to easily commute to and from the campus.
- Elevators are especially helpful for people who need assistance going up and down.
- Girls Common room is a private room for female staff who are breastfeeding and can pump breast milk in private.
- A Baby Day Care facility is available to assist female employees to provide a safe, secure and caring environment to their infants.
- Maternity Facility available for female employees and also the wives of male employees.



Wheelchair Ramps

ENTITLEMENTS

Hospital will provide facilities for consultations, normal investigations to the employees and their dependents in the following manner:

OUTDOOR TREATMENT:

- Hospital will provide facilities of consultations and investigations
- Expensive investigations such as MRI, CT scans, Angiography, thallium scans, bone scans, isotope studies, etc. will be performed after in-house consultation and MS approval
- Dental treatment will be available at a subsidized rate
- Medications will be available at retail price

INDOOR TREATMENT/HOSPITALIZATION:

- In case of hospitalization, employee or his/her dependents are entitled to free medical/surgical treatment in Dr. Ziauddin Hospital, including all diagnostic and laboratory investigations
- Medications (excluding chemotherapeutic drugs for oncology patients) will be available at 50% discount
- Diet will be entitled to employees only, not to dependents
- Angiography procedure and disposables will be available at 50% discount
- Radiation for oncology patients will be provided free of cost
- Room entitlement as per hospital policy

MATERNITY BENEFITS:

- Female employees or spouse of male employees will be allowed free maternity treatment / delivery after completion of one year of service
- Live or still birth after 26 weeks of pregnancy will be considered as maternity benefits
- Only the first three (3) deliveries (normal or surgical) will be included. Forth (4th) birth is not entitled, even if facilities were not availed in the first three (3) times

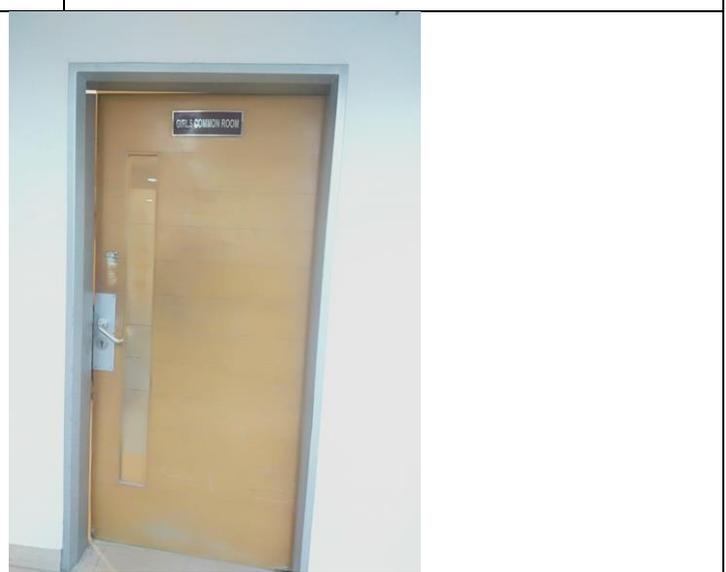
Maternity Facility



Elevator



Baby Day Care Facility



Girls Common Room

ZU facilities for disable, special needs and/or maternity care

Security and safety facilities



Walk through Scanner at Entrance



Hand Scanner at Entrance & Parking



CCTV at Entrance Outside and all the corners of the buildings.



CCTV Monitoring Room



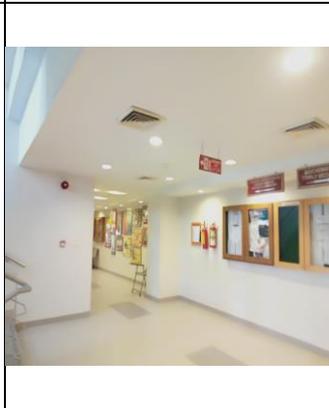
Fire Equipment



Emergency Room



VHF Sets for quick communication



Smoke Detectors at Each Room & Floor





Fire Panel



Fire Extinguisher System



Fire Safety Training conducted quarterly



Ambulance
& Fire
Tender,
Collaboratio
n with
Sindh
Govn.
Rescue For
residents
emergency
& Safety.

Safety and Security facilities at Ziauddin University

Ziauddin University provides the following safety and security facilities for each campus and at each site.

- Walk through Scanner is installed at Entrance to avoid any danger at the beginning
- Hand Scanners are provided at Entrance & Parking for brief checking.

- CCTVs are installed at Entrance Outside and all the corners of the buildings.
- 24/7 CCTV & Fire monitoring rooms operating with fully trained firefighters to immediately respond and overcome the situation in less than 10 minutes
- Fire Panel and fully equipped tools and equipment are readily available in stock.
- Emergency rooms are available with on time Doctor Consultancy.
- VHF Sets provided to security guards & officers for quick communication.
- A Passive Fire Extinguisher System is installed in the overall university.
- Smoke Detectors are installed at Each Room & at each floor of university.
- Policy on fire safety is available with Proper SOPs mentioned and revised yearly as per update and requirements.
- Fire safety training and Drill (Demo) conducts at every quarter in the year to train all the employees and staff for emergency situations.
- Ziauddin University has Collaborated with Sindh Government Rescue for providing security to their nearby residents along with safety and first aid in emergency situations.

Health infrastructure facilities

Health & Infrastructure facilities of Ziauddin University are as follows:

1. Ziauddin Group established the following hospitals at three sites in Karachi i.e.: Clifton, Kemari and North Nazimabad, that are as following:
 - Dr. Ziauddin Hospital, North Nazimabad Campus
 - Dr. Ziauddin Hospital, Clifton Campus
 - Dr. Ziauddin Cancer Hospital
 - Dr. Ziauddin Hospital KDLB, Keamari Campus
 - Dr. Ziauddin Memorial Hospital
 - Boat Basin Executive Clinics
2. Ziauddin Group going to establish Dr. Ziauddin Hospital Sukkur & Dr. Ziauddin Medical Centre, Dubai in upcoming years.
3. Ziauddin University provides healthcare and medical benefits to all their academic and non-academic staff and their dependents with full coverage of IPD, OPD, Maternity, accidental and emergency care.
4. Ziauddin University also provides medical facilities to their part-time employees, retired employees, trainees and postgraduate doctors and nursing students.



Dr. Ziauddin Hospital Kemari



Dr. Ziauddin Hospital Clifton



Dr. Ziauddin Hospital North Nazimabad

Conservation facilities



Conservation: Animal Farm at Ziauddin Link Road Site



Conservation: Urban Forest Area at Ziauddin Link Road Site



Conservation: Ziauddin University Fish Pond of Ziauddin University



Conservation: Greenhouse plantation of Ziauddin University



Orchard Area (Fruits and Vegetables Farming) at Ziauddin Link Road & Sukkur Campus

The Conservation facilities of Ziauddin University are as follows:

- Animal Farm at Link Road site, Currently Camels, Buffalos and goats are in the ZU Family and more additions will be in the future.
- A Conservation Area for Fish Pond at Ziauddin University is in process.
- Greenhouse for planting vegetables and baby plants at Ziauddin University, Sukkur campus and Link Road Site.
- Ziauddin University has collaboration with Sindh Forest Department (SFD) which is under of Green Pakistan Programme for Urban Forest Tree Plantation
- Fruits and Vegetables farming at Orchard Area of Ziauddin University Sukkur Campus and Link Road Site, Karachi.

2. Energy & Climate Change (EC)

- Ziauddin University implemented energy efficient appliances in the entire University, to be recognized as the icon of the innovative, leading-edge educational institute that endeavors to international sustainability efforts for the Environment, Economy, and Equity.
- Energy efficient appliance usage is >75% at Ziauddin university.
- Smart building implementation is also >75% at Ziauddin university.
- Number of renewable energy resources are solar power, Diesel Generator, Gas Generators, combined Cooling, Heating & power (CCHP), Co-Generation, Hot Water Supply and 2x300 Tons Absorption Chiller which are implemented at Ziauddin university.
- The energy efficient appliances usage included R.O plant, HVAC, smart Heat Exchanger, centralized cooling system, Splits/ AC Inverters, LED lights, Energy Savers and many other equipment for minimizing the electrical energy consumption in the campus.
- Ziauddin University also implemented the three elements of ‘green building’ Interior Open Court, Internal Landscape & Air Ventilation System & Solar System to minimize Energy consumption on LED & HVAC by using Natural Air & maximum Sunlight in daylight.



LED Lighting



Ceiling Fans and HVAC



Centralized Cooling System1416



Elevators

Examples of Energy Efficient Appliances Usage at Ziauddin University

Renewable Energy Sources in Campus

Dr. Ziauddin Group is Operating on four sources of energy Gas Generator, Diesel Generator, Solar Panels and K. Electric (federal government source). 250KW Solar Installation at Ziauddin KDLB, Kemari Site, 225 KW Solar Installation at Ziauddin University Link Road Site, Educational City and 51 KW Solar installations at ZCRS Boat Basin Clifton Site and 51 KW installed at Ziauddin University North Site. 110 KW solar installed at Ziauddin Sukkur Campus. 3 solar of 10 KW are installed at multiple sites at Ziauddin University Clifton.

Similarly, 1.2 MW gas genset, 725 KVA and 750 KVA DG Sets, 1250 KVA Diesel generator are installed at Clifton Site also there are 2 backups of 500 KVA installed at Clifton Site. Moreover, 60 KVA Diesel Generator installed at North Site. From which the distribution Unit of University and Hospital may vary according to the requirements and consumption.

The combined cooling, heating and power (CCHP) unit in Ziauddin Clifton uses diesel & Gas as fuel. The rated power of the is 300+265 Tons.

Entire Ziauddin University Building including B+G+5th Floor area of each floor 25000 Sq. ft. covered for Chiller Cooling. Hot Water provides heating for Kitchen and Bathrooms throughout the University.

Moreover, Wind Turbine project is under process at Ziauddin Link Road Site, Educational City Karachi.

The Ratio of Capacity produced (in KWH)/Year and Electricity usage (in KWH)/Year is **91.52 %**.

	
<p>Co-Generation Hot Water Supply</p>	<p>2x300 Tons Absorption Chiller</p>
	
<p>250 KW Solar Installation at Ziauddin University KDLB, Kemari Site</p>	



Solar Parking at Link Road Site



Solar Street Lights at Link Road Site

Solar Cafeteria at Link Road Site



225 KW Solar Installation at Ziauddin University Link Road Site, Educational City.



Solar Street lights at Sukkur Campus



110 KW Solar Installation at Ziauddin University Sukkur Campus



1.2 MW Gas Genset at ZU Clifton Site



1250 KVA DG Set at ZU Clifton Site



500 KVA two DG Sets at ZU Clifton Site for Backup



750 KVA DG Set at ZU Clifton Site



750 KVA DG Set at ZU Clifton Site

Elements of Green Building Implementation as Reflected in All Construction and Renovation Policies

Ziauddin University is striving hard to be recognized as the icon of the innovative, leading-edge educational institute that endeavors to international sustainability efforts for the Environment, Economy, and Equity. All new construction and renovation are based on the green building concept.

In the most recent construction of Ziauddin University, the link road site has open court areas for sunlight and fresh air ventilation. Optimal windows are provided for the daylights and for the minimization of LED light bulbs. Interior Open Court, Internal Landscape & Air Ventilation System, Solar System these all are examples to minimize energy consumption on LED & HVAC by using Natural Air & maximum Sunlight in daylight.

Ziauddin University also implemented the elements of 'green building' such as an absorption cooling plant for cooling purposes, a geothermal heat exchanger to pre-warm the outside air, solar panels for energy consumption & wind turbines are in under implementation phase etc.

Ziauddin University recycles water from the kitchen, wash basin and wuzu khana (prayer area) and uses it in plantations. Sprinkler has installed a drip irrigation system which checks and balances every drop of water and sprinkle according to the needs of plants.

Ziauddin University Is also working in the reduction of waste. Toxic, Inorganic and Organic waste Collected separately then Organic waste used for making fertilizers for plants, forest vegetation and field.



Environmentally Preferable Campus Structure: Interior Open Court, Internal Landscape, Air Ventilation System, Multiple Windows for minimum use of energy and maximum use of sunlight and fresh Air etc.



Energy Efficient Usage of Appliances: LED Lightng,Energy savers, Invertors, Ceiling Fans, Centralized Cooling System, Elevators etc.



Renewable Energy: Solar System to minimize Electricity consumption



Water Efficiency: recycling & justified use of each drop through Sprinkler (Drip irrigation System)



Waste Recycling & Compost use in Plantation & Vegetation

Greenhouse gas emission reduction program

Ziauddin University is following the three **gas emission reduction programs** aimed to reduce all three scopes emissions (Scope 1, 2 and 3). These are as follows:

1. Pedestrian Friendly Campus

All Campuses or sites of Ziauddin University are **pedestrian friendly** to reduce private vehicles on campus, as ZU campuses are purposely designed in a way that have multiple entrances and have vehicle-free paths to reach towards campus buildings. Ziauddin University not only pledged to become carbon free but to build a healthy society to promote walking trend in university students as well as faculty and administrative staff as human health is deteriorating day by day due to carbon emission. Therefore, Ziauddin University is keenly working to make its campus not only carbon free but to save the environment and reduce air and noise pollution too. Inside the campus, approx. The travel distance is about 0.1 kilometer. Ziauddin only allows limited cars of higher officials only to park inside the campus; the rest are encouraged to use shuttle service and carpool to avoid private vehicles inside the campus.

2. Renewable Energy Sources

Ziauddin University is Using Solar & Biodiesel as renewable energy for electricity that reduces purchased electricity. Ziauddin is also obtaining a wind turbine for the coming years. There are a total of 717 KWA Solar Panels installed at Ziauddin University respectively. That is a total of 225 KW solar panels installed on the parking lot, Cafeteria and on street lights of Ziauddin University Link Road Site, Educational City. 250KW Solar Installed at Ziauddin University KDLB, Kemari Site. 51 KW Solar Installed at Ziauddin University North Site and 51 kW Solar Installed at Ziauddin University Clifton Boat Basin Site and another 3 solar panels of 10KW are installed at Clifton, Karachi and 110 KW solar installed at Ziauddin Sukkur campus.

3. Rideshare (Carpool)

Rideshare designed to encourage commuters to adopt healthy and sustainable transportation options. All students are socially connected to WhatsApp groups. They can easily communicate for their classes' schedules and **merge multiple students of the same locality in a car** which reduces air pollution. The carpooling system saves the economy of every person as they share their rides and also share the cost with the other member in the car. It will stop endless Spending money on travel and encourage commuters to adopt healthy and sustainable transportation options.

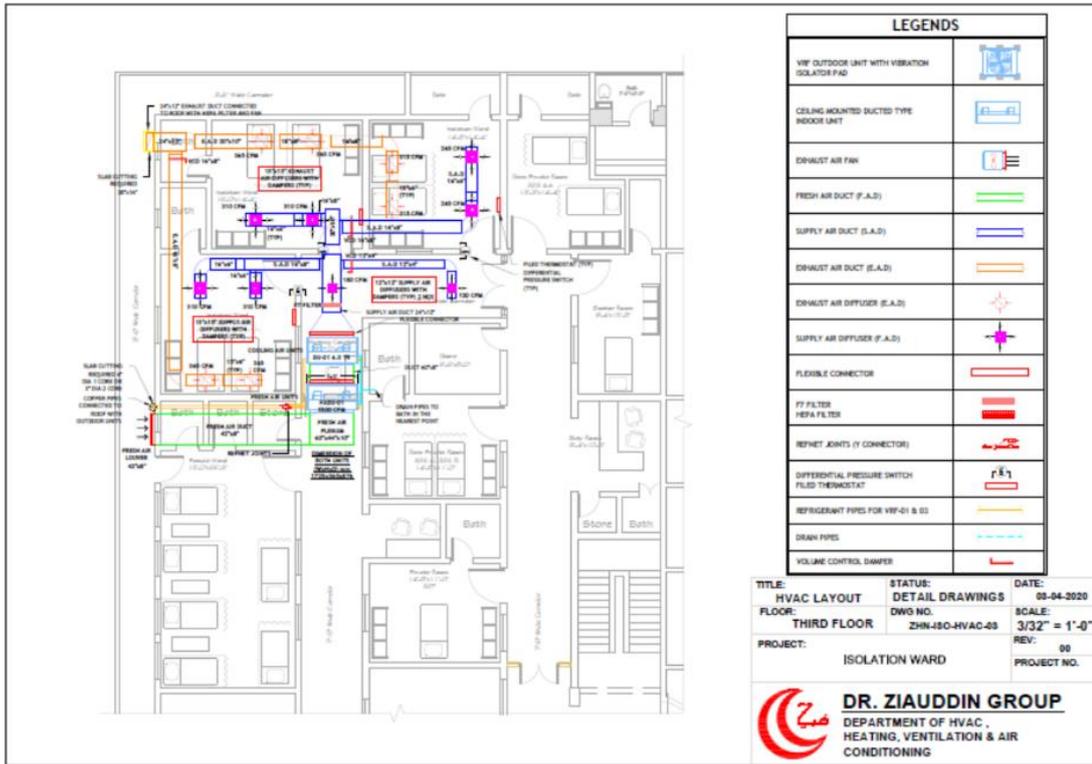
The Total Carbon Footprint (CO₂ emission in the last 12 months) at Ziauddin University is 6141.4252 metric tons.

Innovative program(s) in energy and climate change

S. No.	Innovative Program on Energy & Climate Change
1.	<p>Program: ZEE Solar Cafe</p> <p>Ziauddin University prefers sustainability in all their operations and activities. One of their initiatives is covering Cafeteria shades with solar panel roofs. Such technology would reflect heat from the sun and use the sun's energy to power buildings and electric appliances. We think we have a multipurpose product that can provide shade to students from burning heat of sun and also generate renewable electricity and can change the view of a grey, empty space or old-style parachute Umbrella into a nice architectural function.</p> <div style="display: flex; justify-content: space-around;">   </div>
2.	<p>Program: Solar Parking</p> <p>Ziauddin University prefers sustainability in all their operations and activities. One of their initiatives is covering parking lots with solar panel roofs. Such technology would reflect heat from the sun and use the sun's energy to power buildings and electric appliances. We think we have a multipurpose product that can cover our cars, generate renewable electricity and can change the view of a grey, empty space into a nice architectural function.</p> <div style="display: flex; justify-content: space-around;">   </div>
3.	<p>Program: Solar Street Lights</p> <p>After successful implementation of Solar Parking and Solar Café Ziauddin University started a new chain of sustainability develop with the initiative of Solar Street lights. Such technology would reflect heat from the sun and use the sun's energy to bright the streets at night. We replaced all our old traditional street lights into new solar street lights in our Sukkur Campus and Link Road site. Which are not only attracted but also save our energy consumption. These street lights also help residents to move from surrounding without fear of darkness.</p> <div style="display: flex; justify-content: space-around;">    </div>

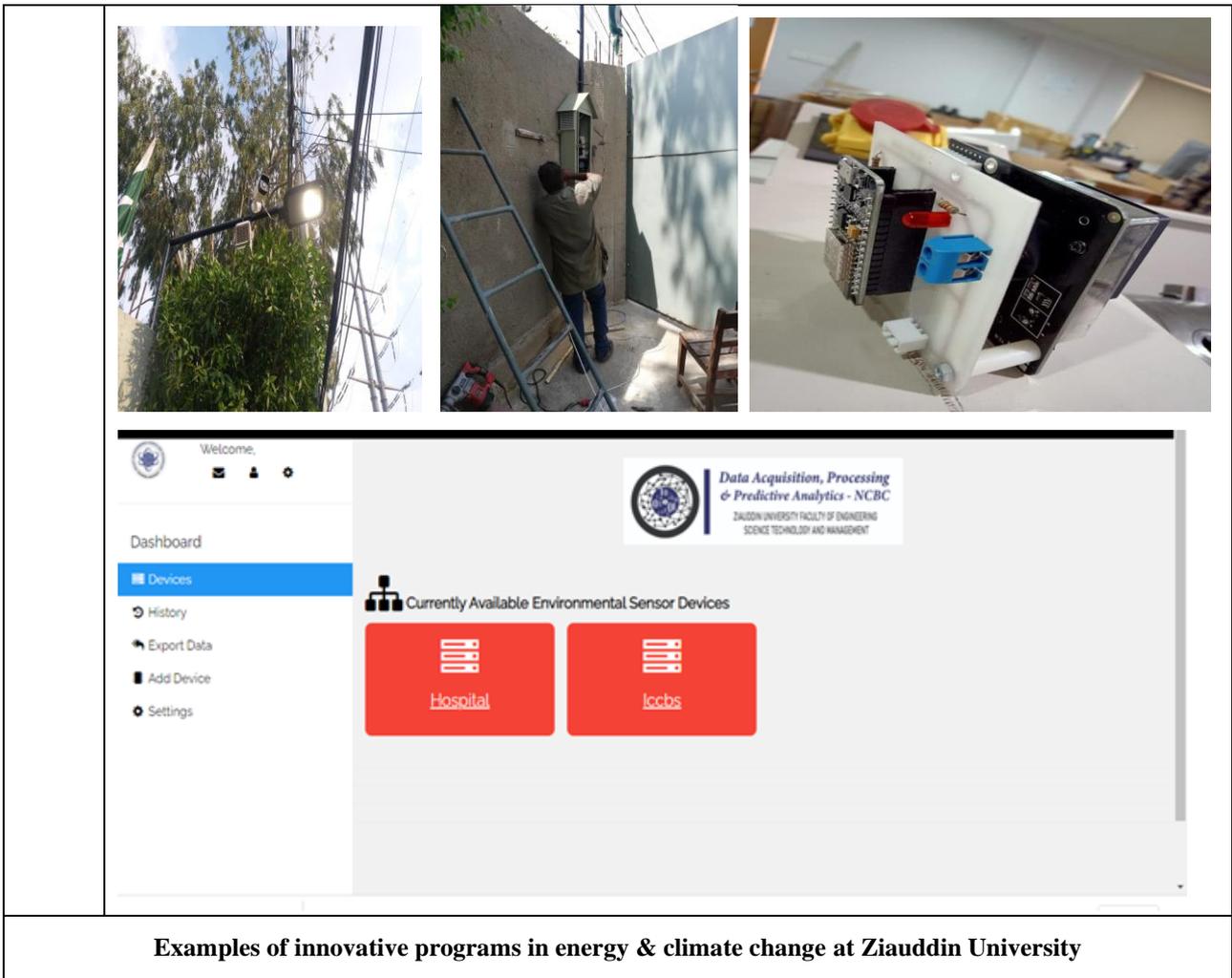
4. Program: Smart room sterilization / Airborne Infection Isolation (AII) Rooms

To maintain the sustainability and reduce the spread of air pollution Ziauddin University has designed Smart Sterilization Rooms in their hospital to avoid the spread of infectious and spreadable disease from one patient to other patients. Smart Sterilization Room used to reduce the spread of airborne infectious diseases such as TB, Covid-19, influenzas, Pneumonia etc. from the patient in the AII Room to the rest of the hospital or University. There are also innovations in room sterilization using UVC rays for biological pollutants attached to the surfaces such as benches, floors, and walls. UVC wavelengths can be remotely regulated so they can be used for multi-organic sterilization of pollutants (biological pollutants).



5. Program: Multi-Parameter Environmental Monitoring Device

Environmental monitoring is a critical issue of the world these days. Pakistan; the 5th highest a populated country faces challenges due to the polluted environment. With ever-increasing traffic and industrial requirements, pollution is growing at a fast pace in almost all of the big cities in Pakistan. Karachi, being the metropolitan city and the country industrial hub is facing environmental pollution more vehemently. To overcome this issue many indoor and outdoor environmental devices are available in the market with limited sensors. Our system is a fusion of the internet of things (IoT), Wireless Sensor Node (WSN), and Big Data & cloud computing. The system comprises hardware and software, whereas the hardware module includes multiple sensors like Temperature, Humidity, Particle Sensor (2.5 and 10mm), carbon-di-oxide, oxygen and voice sensor for environmental monitoring. Furthermore, to identify the exact location of polluted areas, a GSM module is integrated in the system. In addition, the system is able to calculate and monitor the Air Quality Index. The whole system is integrated with a data center to store the live data; however, a web-based application is also developed to monitor sensor reading.

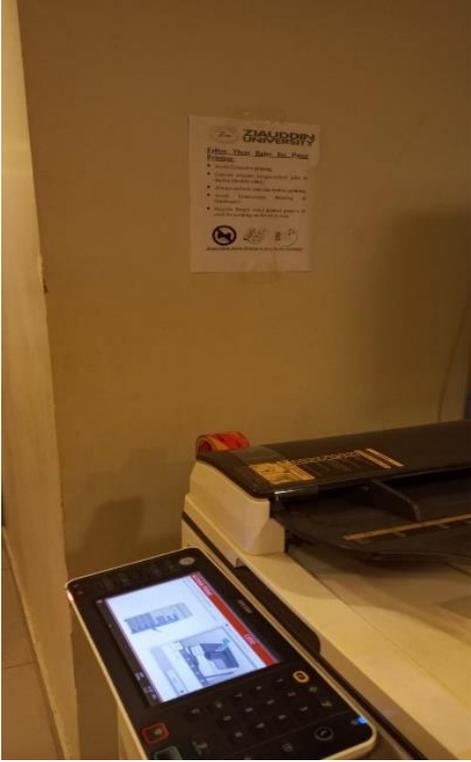
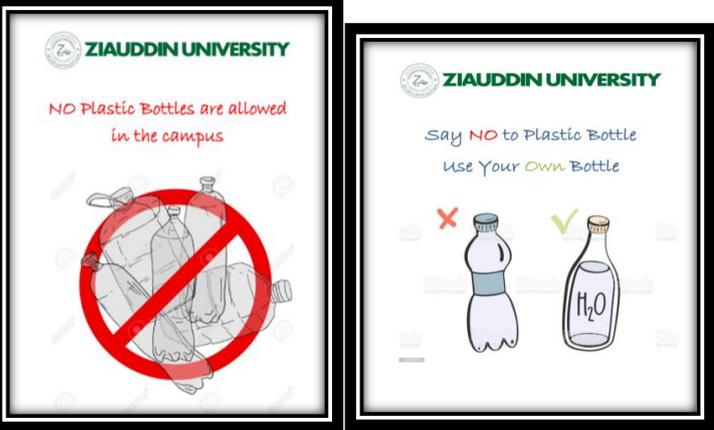


3. Waste (WS)

To meet the standards of proper hygiene and health safety, Ziauddin University centralizes the waste management system with the public waste management body. Ziauddin University has a sound policy for waste, different **color-coded dustbins** have been placed at various places in university and every floor. The red bins for plastic waste, Green Bins for waste papers, blue bins for organic waste and yellow bins for toxic waste. The waste collected into bins and then used for different purposes like plastic glass are used for plantation purposes. Paper waste is used for making cards and organic waste is used for **fertilization for plants**, etc.



Program to Reduce the Use of Paper and Plastic on Campus

	 <p><u>Follow These Rules for Paper Printing:</u></p> <ul style="list-style-type: none"> • Avoid Excessive printing. • Convert simplex (single-sided) jobs to duplex (double-sided). • Always recheck your data before printing. • Avoid Unnecessary Printing & Hardcopies • Recycle Single sided printed papers & used for printing on the other side.  <p><i>Always Think Before Printing & Save The Environment</i></p>
<p>Central Printing Machine</p>	<p>Rules to reduce & Recycle Paper Printing</p>
	
<p>Restriction on Use of Plastic Bottles inside the campus</p>	
<p>Example of Program to Reduce the Use of Paper and Plastic in Campus (Ziauddin University)</p>	

Ziauddin University have proper practices and taking many steps to minimize the use of paper and plastic. which are as follows:

1. Use of E-Portal & Softcopies than Hardcopies:

Ziauddin University performs every operation online via google meet, google Docs, Spreadsheets and E-Portal to avoid excessive use of papers. Each employee is practicing on softcopies rather than rely on hardcopies. Even Emails are also sent with the message "**Please consider your environmental responsibility before printing this e-mail or its attachment(s)**".

2. Restrict Printing Access

To restrict print jobs in the daily workplace Ziauddin University limited the printing access to specified people. Each person has their own printing ID to access to the printer without paper cut ID no people can print. In this way printing of paper has been reduced because no one has right to print anything anytime.

3. Central Printing Machine

Instead of giving printer facility to each department or each employee, Ziauddin University has placed Central Printers at every floor with mentioned printing rules. In this way people are used to of limited printing in their day-to-day activity.

4. Rules to Reduce & Recycle Printing

To reduce the use of Printing Ziauddin University has placed proper rules of printing with each central Printing Machine. Which are as follows:

- Avoid Excessive printing
- Convert simplex (single-sided) jobs to duplex (double-sided)
- Always recheck your data before printing
- Use an online system instead of hard copy.
- Single sided printed papers are collected together and further used for printing on the other side.

5. Campaign of REFUSE PLASTIC

- Ziauddin University has run the campaign of REFUSE PLASTIC and restricted the use & buying and selling of plastic bottles and plastic bags inside the campus.
- No one is allowed to enter with disposable bottles, only Own bottles are allowed to take with them and refill from water filters whenever required.
- Security Guards get the plastic bottles from the visitors at the entrance and collected bottles are further used for plantation purposes.

Organic Waste Treatment



Organic Waste decompose



Making Fertilizers



Use Compost for Urban Forest Plantation

Example of Organic Waste Recycle at Ziauddin University

Ziauddin University is practicing on the following policies regarding waste and disposal to develop the hygienic and sustainable environment for everyone. These Policies are as follows:

- Waste Management Policy
- Cleaning of Walls & Floors
- Management of Spill
- Cleaning, Disinfectant and Sterilization Policy
- Safe handling of Contaminated Sharps
- Waste Disposable and making Composed

According to the Waste Management Policy different color-coded dustbins have been placed at every floor. The red bins for plastic waste, Green Bins for waste papers, blue bins for organic waste and yellow bins for toxic waste. The waste collected into bins and then used for the respective purposes. Green Bins waste are used to recycle papers, Blue Bins are used to make compost for plants and fields, yellow bins are tagged with danger to avoid hazardous waste and are safely handled to Karachi Metropolitan Corporation (KMC) for the incineration process.

Ziauddin University not only safely disposes and recycles waste but also practices cleaning of walls, floor, disinfestation and sterilization of beds, rooms and equipment according to the specified policies for making their surrounding Clean and Hygienic for their staff, students, patients, attendants and residents etc.

In Ziauddin University, the sources that produce organic waste are canteens, Cafes, fallen leaves, cutting of Plants and Animal waste etc. Canteen and Cafes waste are dumped into blue bins that are for organic waste, Full Bins Collected by the Horticulture department for recycling. Pits are made at Ziauddin University Link Road Site and Clifton Site for organic waste recycling. All the waste from blue bins, cutting of plants, fallen leaves and animal waste collected from the veterinary department altogether all organic waste is dumped into pits for making compost. As a result, organic fertilizers are produced that are used in the Orchard Area and field for plantations and fruits and vegetables farming.

Toxic Waste Treatment

To meet the standards of proper hygiene and health safety, Ziauddin University Hospital centralizes the waste management system with the public waste management body. for toxic waste that are harmful for human health and environment

ZU also has made sound policies for disinfectant and cleaning with proper implementation to make the Environment Clean, Green & Sustainable. ZU Management is also analyzing these policies every year and revised as per the requirements.

Ziauddin University has a contract with Karachi Metropolitan Corporation (KMC) for collection of clinical hazardous and infectious waste for proper collection and disposal through the incineration process. KMC authorized staff collects red bags for the incineration process in accordance with all applicable local, state and federal laws and regulations.

Sewages are disposed of without any treatment in the govt sewage lines.

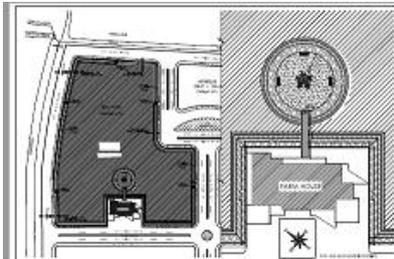
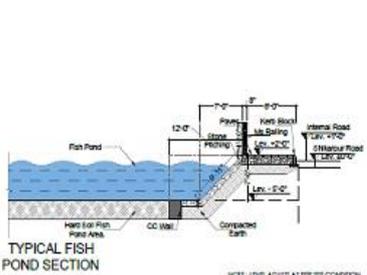
4. Water (WR)

Water resource management is the activity of planning, developing, distributing and managing the optimum use of water resources. At Ziauddin University, water consumption and utilization are according to the standard need which represents no water wastage along with water efficient appliance usage.

Water management and its treatment are at par with global policies and procedures.

Water Conservation Program Implementation

1. Most of the buildings of the Ziauddin University have a separate system, for waste water and for clean water (rainwater). Rain water is thus collected from the roofs of the buildings and is then discharged into the local ponds and canals around the buildings. The university also has buildings where all the rainwater is collected for toilet flushing and for watering the plants inside the building. At our campus we have a separate sewerage system. We collect rainwater from the roof, parking area etc. and discharge this in the ponds and channels at our campus.
2. Clifton side is located near the sea, and the average TDS of seawater is 45000, therefore, RO plants are used for recycling the seawater for general and drinking usages. The water is stored in underground tanks. The average recycling of the Ziauddin University Clifton is 60,000 gallons/day.
3. On the other hand, Ziauddin University, North Nazimabad Site, uses the bore water and RO plants are used for recycling the bore water for general and drinking usages. The water is stored in underground tanks. The average recycling capacity of Ziauddin University, North Nazimabad is 100,000 gallons/day.

		 <p>TYPICAL FISH POND SECTION</p> <p>NOTE: LEVEL ADJUST AS PER SITE CONDITION.</p>
<p>Drawing of Conservation of Rain Water Collection (Ziauddin University)</p>	<p>Water Conservation - In Ground Water Tank</p>	<p>Construction Level of Pond (Ziauddin University)</p>
		
<p>Water Storage tanks at different location of Ziauddin University</p>		

Water Recycling Program Implementation

The Clifton site of the Ziauddin University is located near the sea, and the average TDS of seawater is 45000, therefore, **RO plants** are used for recycling the seawater that reduces the TDS to 450 - 500. This water is used for general usage. For drinking, the water is further treated by another small RO plant.

The other campuses of Ziauddin University use the **bore water** after RO treatment. The average recycling of the water in Ziauddin University is 1.6 lacs gallon/day.

A **Sprinkler (water meter)** is installed to measure the amount of water that has been used. This is to balance the supply of water in plants and fields so that each plant grows and takes water according to their requirement. Through this we have changed the old method of watering plants to a drip **irrigation system** and reduced the water wastage and sprinkler only opens when plants need water and they supply in the needed quantity because each drop is important for us.

Most of the buildings of the Ziauddin University have a separate system, for waste water and for clean water (rainwater). Rain water is thus collected from the roofs of the buildings and is then discharged into the local ponds and canals around the buildings. The university also has buildings where all the rainwater is collected for toilet flushing and for watering the plants inside the building. At our campus we have a separate sewerage system. We collect rainwater from the roof, parking area etc. and discharge this in the ponds and gardening plants through sprinkler (drip irrigation system).



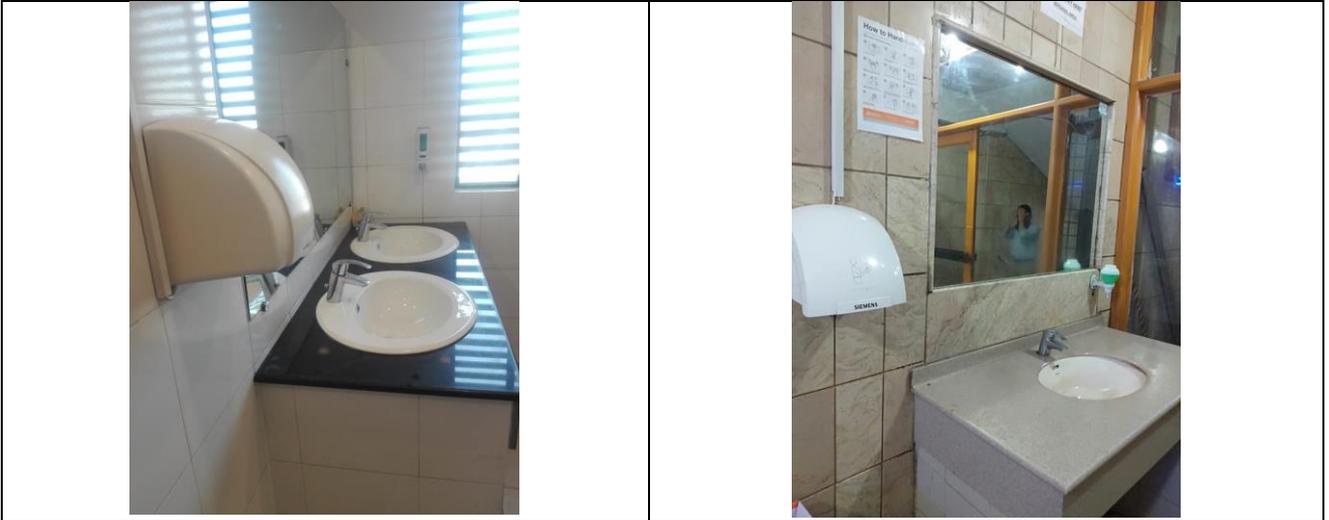
R.O Plant at Ziauddin University



Sprinkler used to proper supply Recycled Water for Plantation

Water Efficient Appliances Usage

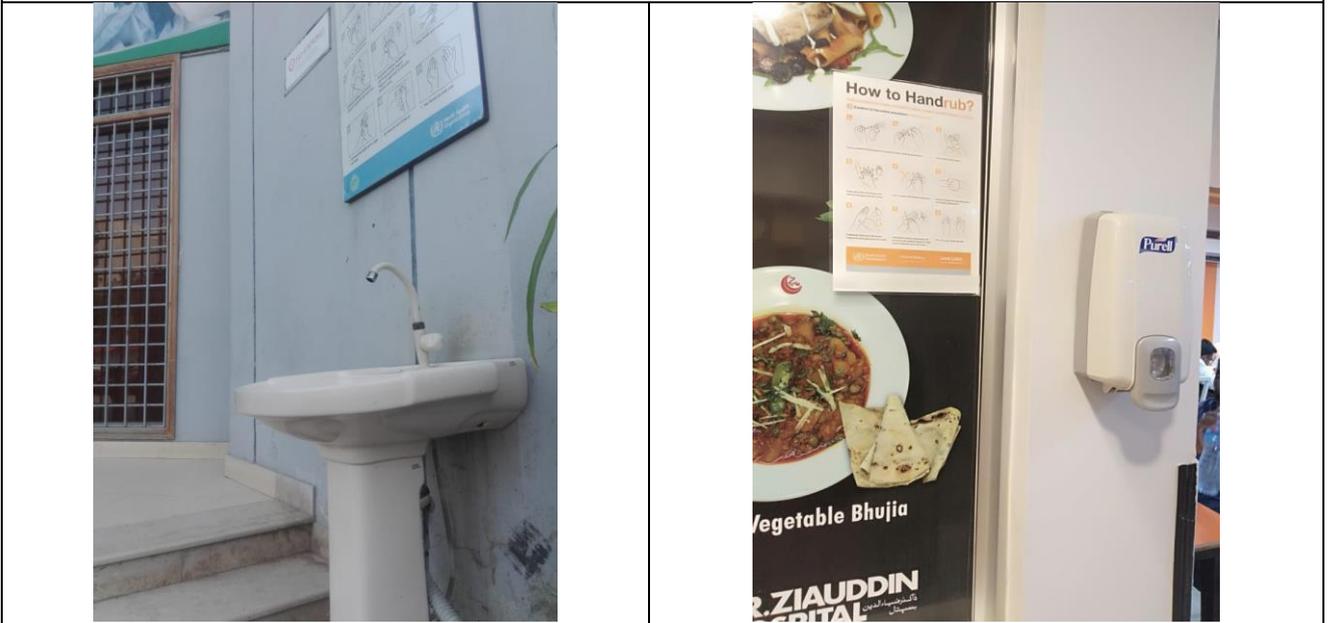
Ziauddin University ensures usage of water efficient appliances in its campuses.



Wastel/ wash basin, Hand Dryer & Soap Dispenser



Hand Sanitization Facilities in the Campus



Water Efficient Appliances

Consumption of treated water

Ziauddin University has the facilities for the consumption of treated water.



Water pollution control in campus area

Ziauddin University took great initiatives to overcome water pollution. Which are as follows:

1. VR Dental Simulator & 3D Virtual Dissection Table

Ziauddin University is very much concerned about sustainability in all its operations. Virtual Simulator allows students to refine their clinical skills in a sustainable manner. It helps students to scan a simulated patient's mouth as if it was done manually then many toxic chemicals could be used to stop spreading germs. Therefore, use of technology in terms of VR Simulator helps to contribute to a sustainable environment and become a major source to control water pollution. To cut down usage of chemical and control water pollution ZU has launched the Virtual Reality Dental Simulation Lab, on November 25 2021. This is the first time such a lab has been made in Pakistan. VR simulation training is now a part of the ZU Dental undergraduate curriculum. This dental simulator training will help students excel in their professional skills before starting dental procedures on patients and also reduce the use of chemicals in training and preserving water and marine life.

2. 3D Virtual Dissection Table

Sustainability in all its operations is the foremost goal of Ziauddin University. To preserve cadavers in the anatomy lab formaldehyde is used and its toxic vapors are not hazardous for environment only but also impact human's life, not only this but it's a major source to pollute water. To keep these potential hazards in view and to minimize the or no use of chemicals in anatomy labs which cause water pollution, Ziauddin University stepped up and introduced a 3D Virtual Anatomage; a powerful tool that will allow students to dissect complex structures with their fingers. The Anatomage Table and Digital Anatomy Lab inaugurated by Dr. Asim Hussain, Chancellor Ziauddin University makes Ziauddin University a technology leader not only in Pakistan, but in South Asia. Anatomage, designed with the latest 3D technology, allows students to visualize every structure of the body in great anatomic detail while also reducing the use of chemicals in training and preserving water and marine life.

3. Waste water Recycle

Ziauddin University has an efficient system to recycle gray water and use such water for plantation, forest and irrigation which helps to control water pollution. Not only has this but Ziauddin University had a proper waste water management system. In this regard Rainwater is collected from the roofs of the buildings and parking area and then also used for planting and in toilet flushes. Sprinklers (drip irrigation system) are used for watering the plants, in gardening.

A **Sprinkler (water meter)** is installed to measure the amount of water that has been used. This is to balance the supply of water in plants and fields so that each plant grows and takes water according to their requirement. Through this we have changed the old method of watering plants that waste a lot of water. The drip **irrigation system** has reduced the water wastage because the sprinkler only opens when plants need water and they supply in the needed quantity because each drop is important for us. Through the reduction of water waste, and reuse of gray water Ziauddin University conserved the water which is also an example of water pollution control.

4. Phosphate Free Hand Wash

Phosphate is a chemical used in hand wash which causes water pollution and to control the water pollution Ziauddin University strictly prohibits the use of Phosphate free hand wash and any cleaning chemical which consist of such chemicals which are source of water pollution. Therefore, Entire Ziauddin group has been installed with Phosphate free hand washes for cleaning & disinfectant.

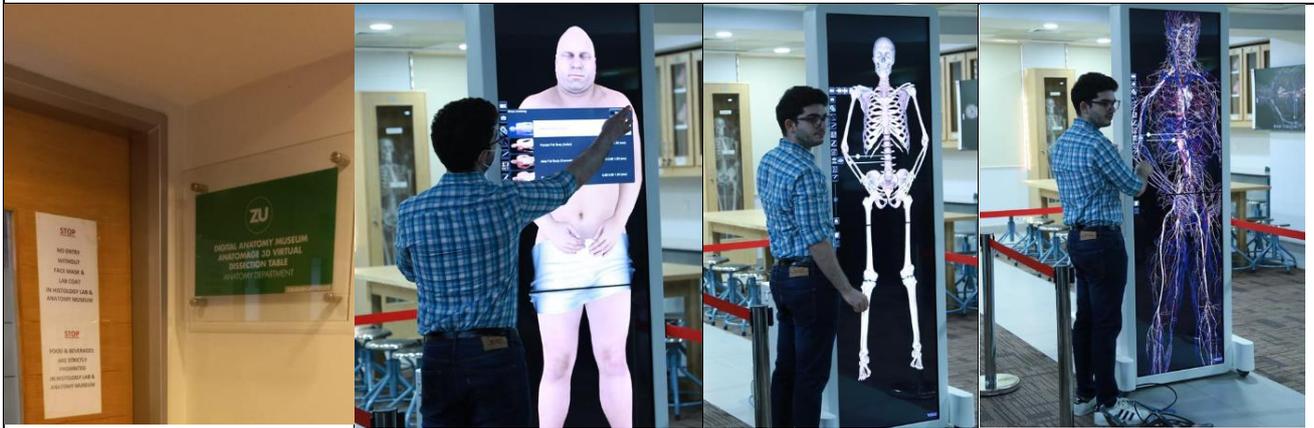
5. Refuse Plastics

In the aim to control water pollution, Ziauddin University has taken many steps to cut down the use of plastic in routine. For this Ziauddin University has taken following steps to cut down use of plastic inside the campus. These are as following:

- Ziauddin University has run the campaign of REFUSE PLASTIC and restricted the use & buying and selling of plastic bottles and plastic bags inside the campus.
- No one is allowed to enter with disposable bottles, only Own bottles are allowed to take with them and refill from water filters whenever required.
- Security Guards get the plastic bottles from the visitors at the entrance and collected bottles are further used for plantation purposes.
- Ziauddin University has also replaced their majority of plastic dustbins into wooden dustbins.



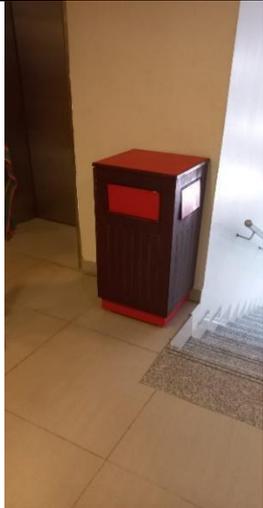
VR Dental Simulator are Example of Cut Down usage of Chemicals for Water Pollution Control at Ziauddin University



Anatomy 3D Virtual Dissection Table is an Example of Cut Down usage of Chemicals for Water Pollution Control at Ziauddin University



Use of Sprinkler to proper supply Grey Recycled Water for Plantation is an example of water conservation for water pollution Control at Ziauddin University

			
<p>Phosphate Free Handwash is an Example of Cut Down usage of Chemicals for Water Pollution Control at Ziauddin University</p>		<p>Use of Wooden Dustbins is an Example of reduced plastics for Water Pollution Control at Ziauddin University</p>	
			
<p>Restriction on Use of Plastic bottles is an Example of reduced plastics for Water Pollution Control at Ziauddin University</p>			
<p>Water pollution Control Initiatives</p>			

5. Transportation

Ziauddin University provides regular and free shuttle bus service from different areas to Link Road Site for all the staff, students and faculty. Last year there were **17 shuttles** operating. Now, we have doubled the quantity to accommodate more students than last year. **34 Shuttle buses** are operating including Hiace, Coaches and Coasters. There are multiple Pickup Points for the feasibility of students such as Qayummabad, Clifton, North Nazimabad, Kemari, PIDC, Garden, Liaquatabad, Gulistan-e-johar and Baldia etc.. Each Shuttle is fully equipped with passengers on a daily basis therefore, the average passenger would be in Hiace 12 Passengers, in Coach 52 and in coaster maximum 30. Each shuttle takes 2 trips each day according to the students' classes schedule which is 8:50 Time in and 3:30 Time Out. The shuttle In and Out time is also fixed as per students' classes schedule. Pick up Times may vary according to the locality and mile distance from the campus. These 34 shuttles accommodate approximately **1500+** students per trip which means an average reduction of **300+** private vehicles.



Shuttle Services (Ziauddin University one site to other site)

Shuttle Services – Bus Timetable (Ziauddin University one site to other site)

Pedestrian Friendly Campuses

All Campuses and sites of Ziauddin University are **pedestrian friendly** as ZU campuses are purposely designed in a way that have multiple entrances and have vehicle-free paths to reach towards campus buildings. Ziauddin University not only pledged to become carbon free but to build a healthy society to promote walking trend in university students as well as faculty and administrative staff as human health is deteriorating day by day due to carbon emission. Therefore, Ziauddin University is keenly working to make its campus not only carbon free but to save the environment and reduce air and noise pollution too. Inside the campus, approx travel distance is about **0.1 kilometer**.



Entrance of Clifton Site Hospital Building, Ziauddin University



Entrance of Clifton Site University Building, Ziauddin University



Entrance of ZUFESTM Building LinkRoad Site, Ziauddin University



Entrance of ZUFESTM North Site, Ziauddin University



Entrance of Sardar Yasin Malik Block LinkRoad Site, Ziauddin University



Entrance of Sukkur Campus, Ziauddin University

Multiple Entrances of Ziauddin University

Parking Area to Total Campus Area

ZU don't allow private vehicles inside the campus. Only higher officials/ University managed cars are allowed to park inside. Our total inside parking area on each campus is around 0.1 KM. Outside parking area of each campus total is **17032.54 m²**.



Inside & Outside Parking of Ziauddin University



Inside Bike Parking of Ziauddin University

Program to limit or decrease the parking area on campus

Following are the initiatives taken by Ziauddin University to limit or decrease the parking area and carbon emission on campus, which are as follows:

1. Shuttle/bus one site to another site

Ziauddin University is operating seventeen shuttles between the campuses. The objectives of these free of cost shuttles are to minimize the use of private vehicles, optimization of the parking spaces, and reducing carbon emission.

These seventeen shuttles accommodate approximately 650 students per trip which means an average reduction of 100 private vehicles.

2. Rideshare (Carpool)

The carpooling system was initiated. All students are socially connected to WhatsApp groups. They can easily communicate to their classes and multiple **students of the same locality share rides which** reduces emission and pollution. The carpooling system is economical and eco-friendly as rides and costs are shared with other members.

3. No Inside Parking Allowed to Students

Ziauddin University prefers walking friendly lifestyles. No students are allowed to park their car inside the campus. For inside parking, University's parking stickers are allocated to University's officials. Only University managed cars with stickers are allowed inside the campus. Due to this action students prefer ride sharing instead of their own car which directly diminishes the ratio of private cars inside the campus and its reduced carbon emission.

4. Limiting parking zone for students

Ziauddin University limits the use of private vehicles by limiting the time of bike parking. The parking lot locked at 9:30 A.M for bike parking. People have to park on the streets at their own risk. This action leads them to share rides or use shuttle service instead of private vehicles, and promote sustainable transportation.

Collectively, all these programs resulted in more than 30% decrease in use of private vehicles, parking area reduction and carbon emission.



Shuttle Bus Service (Ziauddin University One Site to Other Site)



Rideshare (Carpool)



No Inside Parking Allowed to Students



Limiting parking zone for students & Employees

Transportation Initiatives to Decrease Private Vehicles on Campus

Ziauddin University took the Transportation Initiatives to Decrease Private Vehicles on Campus, which are as follows:

1. Shuttle/bus one site to another site

Ziauddin University is operating Shuttle outside the campus for daily commuting. Inside the campus we don't need any vehicle to commute as all our Sites are designed in a way which is Pedestrian Friendly. We have multiple entrance gates. Each building and each gate to their respective building is on Walking distance. We are providing shuttle service for daily commutes, due to which the ratio of students' private cars declined which reduced carbon emission.

2. Carpooling

The carpooling system was initiated. All students are socially connected to whatsapp groups. They can easily communicate for their classes and merge **multiple students of the same locality in a car** which reduces air pollution and noise pollution. The carpooling system saves the economy of every person as they share their rides and also share the cost with the other member in the car. It will stop endless Spending money on travel.

3. No Inside Parking Allowed to Students

Moreover, no students are allowed to park their car inside the campus. For inside parking, University's parking stickers are allocated to University's officials. Only University managed cars with stickers are allowed inside the campus. Due to this action, students prefer ride-sharing instead of own car which directly diminishes the ratio of private cars inside the campus and its reduced air pollution.

4. Emission-Free Day

To encourage alternative transportation and create healthy and sustainable environment, Ziauddin University has launched a cycling activity every once a week. In which nearby students and co-workers in the vicinity (1-2 Miles) of Ziauddin University Main Campus are encourages to give up their cars for a day and commute to University on Bicycle. On that day bikers are allowed to choose their craziest biking outfit They are allowed to choose comfortable, coolest, colorful and safest outfit of their choice to wear and pose for good pictures. Through this activity ZU raising awareness of environmental pollution and helping to reduce emission.



Shuttle Bus Service (Ziauddin University One Site to Other Site)



Carpooling/Sharing

No Inside Parking Allowed to Students



Emission-Free Day

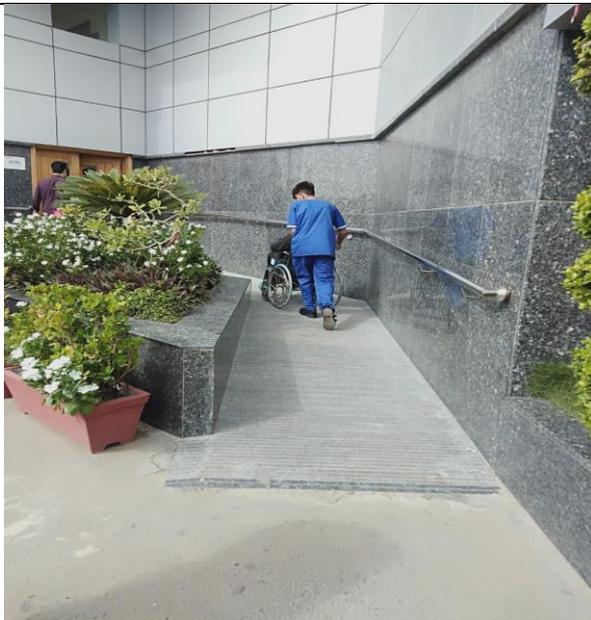
Pedestrian Path Policy on Campus

Ziauddin University practicing the following policies for disabilities in their campuses or sites, which are as follows:

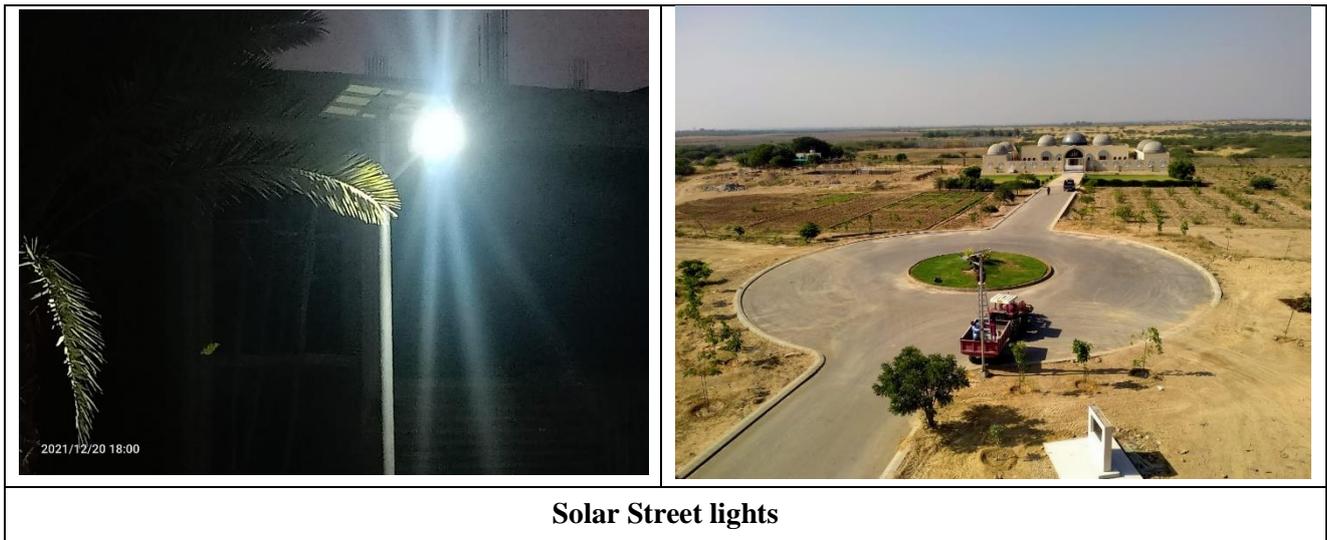
1. Separator between road for vehicle and pedestrian path.
2. Ramps and guiding blocks which have suitable design for pedestrians having physical disabilities.
3. There is as such no need of Street lamp for our students and staff because our campus timing is from 8:30 AM to 5:30 PM but we have installed solar street lights at our Link Road site and Sukkur Campus to serve the nearby locality and for future prediction that in case if we begin evening shift too.



Separator between road for vehicle and pedestrian path



Wheelchair Ramps for Physical Disables



Solar Street lights

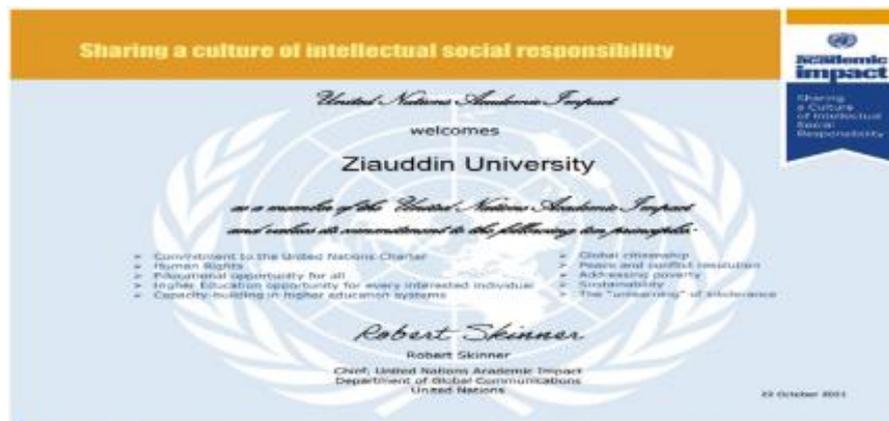
6. Education & Research (ER)

- Total number of courses offered in 2021 is **1711** courses
- Total number of courses with sustainability embedded for courses running in 20120/21 is **356**
- The ratio of sustainability courses to total courses/subjects is >20%
- Total research funds dedicated to sustainability research (in US Dollars) is an Average of 247,760.83
- Total research funds (in US Dollars) (average per annum over the last 3 years) are \$ 543,135.42
- The ratio of sustainability research funding to total research funding is 45.6 %
- On Average More than 20 Scholarly publications on sustainability published.
- University-run sustainability website is also available which is regulate and update regularly.

Student organizations related to sustainability

Ziauddin University offers sustainability in their entire activities. Currently, we have following organizations for students that embed sustainability. We are willing to pursue more organizations in the near future.

1. **Membership with United Nations Academic Impact (UNAI)** to promote global priorities, including peace, human rights, and sustainable development
2. Ziauddin University as a signatory of the **Talloires Declaration-ULSF** Association of UNIVERSITY LEADERS FOR A SUSTAINABLE FUTURE.



Cultural Activities on Campus

Ziauddin University values culture of Pakistan and to inculcate the sense of ownership about culture among students ZU organizes several **Cultural activities on campus**. Each year about **10-15 events** are organized which include Pakistani culture day from all its four provinces, historical trip, Culture Exhibition, Basant, Sports Championships, Sports week of each college & faculty and folk music Night etc. This Year Zu participated in many Sports leagues of other Universities and HEC tournaments and as well as ZU Internal leagues are also arranged for indoor and outdoor sports activities for all. Total No. of ZU cultural events on this year are about **20 Events in 2021**.



Ziauddin University participated in HEC tournament Islamabad held at Moin Khan Academy



ZU Tug of War Championship for Ziauddin Medical College Students on 18th & 19th Sep,21



Ziauddin University participated in HEC Badminton Championship 14th-15th Dec,21



Trip to Churna Island on 13th Dec, 2021 for Marine Life Exploration and Water Sports including Speed Boat, Snorkeling, Scuba Diving, Underwater Photography and other water games etc)



Day 1: Badminton



Day 2: Futsal, Basket Ball, Throwball & Table Tennis



Day 3: Cricket

Sports Week for Students of Ziauddin University College of Rehabilitation Science was organized on 18th, 19th and 20th November'2021.



Field Trip arranged to promote Cultural Activities at a beautiful view of Nature at Nathigali Beach for Ziauddin College of Rehabilitation Science on 14th Nov, 2021. Activities Include: Basant Celebration, Folk Songs, Cultural Dance, nature view from hill to the adorable sandy waterfront etc.



Sham-e-Sufi Qawali Night organized for ZU Students on 14th October, 2021 at Ziauddin University Clifton Site.



Blood Drive on *th April & 3rd November 2021: promote the brotherhood & giving culture through blood donations & Helping Patients in Need



Day 1: Badminton, Table Tennis, Tug of War & Throwball

Day 2: Cricket

Day 3: Futsal

“Sports Buzz” for Students of Ziauddin University College of Medical Technology & College of Eastern Medicine was organized on 20th, 21st and 22nd of October'2021.



Day 1: Cricket Tournament

Day 2: Futsal & Throwball Tournament

Day 3: Badminton & Table Tennis

“Sports Buzz” for Students of Ziauddin Faculty of Nursing & Midwifery was organized on 20th, 21st and 22nd of September'2021.



“Culture Day” for Students of Ziauddin Faculty of Nursing & Midwifery was organized on 24th of September'2021.



ZU Soccer Champion League held on 24th & 25th August 2021



ZU Athletics Championship



ZU Participated in All Karachi FUTSAL Championship held at Shaheed Mohtarma Benazir Bhutto Football Stadium



ZU participated in HEC Football Championship from 1st till 4th of March 2021 at NED Football ground



Ziauddin University of Engineering, Science Technology & Management (ZUFESTM) Sports Festival held on 16th & 17th March, 2021



ZU Organized Employee Cricket Tournament on it's 25th Anniversary



ZU organized Intermediate Collegiate “Girls Throwball Championship” on 1st April 2021 at the ZUFESTM, ZU North Site



Zu master blaster night intercollegiate cricket championship was held from 19th – 26th April 2021 at the Clifton sport arena

Examples of Cultural Activities on campus Ziauddin University

University program(s) to improve teaching and learning

Total programs to improve Teaching and Learning in Ziauddin University are as follows:

1. Guest Speaker Session on Internet of Things

On 8th October 2021, Ziauddin University Faculty of Engineering, Science, Technology & Management (ZUFESTM) Student council under patron Engr. Ashfaq Baloch arranged a session on the awareness of IOT (internet of things), CEO of Autocon Engr. Usama Rais was the guest speaker. He is a professional automation engineer with more than 03 year of experience in the field of industrial automation. He discussed following topic in the session:

- Introduction to IoT.
- Basics of Industrial IoT and application.
- IoT Hardware and software platform.
- IoT protocol, gateways and communication.
- Popular clouds available.
- Introduction to IoT kits and IoT boards.

In the end Engr. Usama Rais was awarded with a shield and certificate.

2. FRIP Workshop

FRIP conducted a two-day Level 1 workshop, on 9th and 10th October 2021, at Ziauddin University which invited to all the students of MBBS and BDS from Karachi. It was a thorough workshop covering essential knowledge related to basic lifesaving skills and how to approach common emergency situations. Even if we as students have not encountered many emergency situations, the knowledge and skills taught in the workshop are something one should be familiar with. The workshop did not only include interactive lecture style sessions but also demonstrations that provided hands-on practice. The workshop concluded with a digital exam consisting of MCQs and a viva conducted by all executive council members of FRIP. The exam did not only reinforce the concepts we learned over the two days but also provided us an opportunity to measure our skills in order to qualify for the subsequent Level 2 workshop, an opportunity every medical student is enthusiastic about!

Participants and instructors also received refreshments over the course of the workshop and it was a brilliant networking opportunity for students of different universities to come together.

3. Guest Speaker Session on Combating mental health challenges and substance addiction in the Healthcare profession.

Combating mental health and substance addiction in the healthcare profession, which was conducted on the 7th of October 2021, Thursday, by the Student council for all healthcare departments of Ziauddin (including faculty members). The main target & aim of this session was to tackle the taboo topic and expand awareness for both the students and faculty alike so that a safe space can be created while catering to the student's needs.

4. Workshop on Defeating Burnout & Anxiety Mindfully

On Tuesday the 7th of August, the student council of Ziauddin University, college of speech language and hearing sciences conducted a session on mental health awareness and burnout. Miss Tehmina Waqas, a clinical psychologist, who specializes in CBT and hypnotism, to talk about the various ways of coping with burnout.

The event was very interactive, and was made special by all the activities and games that our guest organized for the students. To create flow, students were divided into groups and were asked to pass on a ball to their group member with only a spoon in their mouth. Other activities included a diversity walk, where each set of students had to come up with a different way to walk, as well as a balloon popping game, where the last person standing with an unpoped balloon won.

5. Online Session on Essential of E-Commerce

On 10th August 2021, The Office of Student Affairs Ziauddin University in collaboration with the students' council of ZUFESTM held a webinar, titled "The essentials of e-Commerce". The session was hosted by Ms. Mahin Khan and Syed Mahazaib Pasha and guest was Mr. Nasir Saleem, an e-Commerce manager for a high-end children's clothing company in the United States of America; managing a \$10M direct to consumer e-Commerce business.

The aim of the webinar was to educate students about e-commerce, the latest digital technology and its advantages around the world, especially Pakistan. The guest felt free to help students in helping with e-commerce and to solve queries and gave his email id for future queries to establish trading with e-commerce.

6. ZUDC Debating Championship

Ziauddin University hosted a virtual debating tournament and for the first time in its history welcomed teams across Pakistan and internationally. With a total of 26 teams and debaters from all age groups and professional backgrounds, the level of debate was not only fiercely challenging but immediately fun for our participants.

Our stellar team of chief adjudicators from Pakistan and beyond, made sure that the motions test our participants' critical thinking skills to the max. Ranging from the legitimacy of the two-nation theory, rise of white influencers in Pakistan and increasing funding for liberal arts programs in developing countries, the motions could not be more diverse. The debate was based on an All-Asian parliamentary style. After intense 2 days of back to back debates the top 8 teams were announced and knock-out rounds followed. The teams to make it to the finale were "Not-All Gens" (proposition) and "State of Salty more" (opposition) who debated on the motion "This house supports the commercialization of Afro futuristic

aesthetics (e.g., Black Panther). After an enthralling debate State of Salty more bagged the title of Champions with Uzair Tajjiuddin and Flora Beak making it to the top of the speaker ranks!

7. Surgical Skills Workshop

The Surgical Skills Workshop by Welfare AID society of Ziauddin University was led by Dr Zubia along with her team on 23rd of January 2021. A group of like-minded students regardless of what degree they're acquiring, came out to learn the basics of surgery. That being, the types of suture, the instruments used, and the skills required to do the whole process. Every year students take away valuable knowledge from these workshops, and practice whatever they're taught in the workshop at home, to get the finesse of tying the knot that saves someone's life. Surgical Skills Workshops are arranged by Welfare Aid but they are a success because of the team of doctors and residents that choose to help us. We had a competition at the end of the workshop where a brand-new suture kit was gifted to the participant who made the knots the fastest and the cleanest.

8. Educational Fair

On June 18th, Student Council of College of Medical Technology arranged an educational event, Medical Technology Educational Fair '21. In this event students from every year were supposed to make projects and posters on their given topic. They were divided into groups which had members from every batch. A particular topic was given to each group and they had to present it. The response was overwhelming and the participants displayed amazing hand-made posters, models and also demonstrated it practically. The event was judged by the participants of other groups, the faculty of Ziauddin College of Medical Technology and Ziauddin College of Eastern Medicine. Results were announced by compiling all the scores given by the faculty members and participants. The purpose of this event is to help the medical technology programs' student to review what they have learnt in their previous semesters.

9. Webinar on Technology Transformation & Teacher Professional Development

Ziauddin University arranged webinars for students and faculties, with the purpose of not to trade off students' quality learning. Faculty development is equally important for students learning and teaching with skills on modern technology use. That's why ZU Has arranged a webinar on ZOOM for faculty Technology Transformation & Teaching Professional Development on 20th Dec, 2021.

10. Scientific Session with ZU Alumni

Ziauddin University not only focuses on learning and development of their students and faculty only, but they are also concerned with the learning and development of their graduates. Therefore, ZU has arranged a scientific session with their ALUMNI on 18th DEC, 202. In which different global challenges and research challenges in the modern world have been discussed. The session was divided into four different sessions and into different topics. That are as following:

- i. **Research**
 - Getting Involved in Research as an Undergraduate till a Consultant
 - The Good, The Bad & The Ugly of Medical Research)
- ii. **Education**
 - Team Based Learning
 - Mentoring the Mentor
- iii. **The Way Forward**
 - Career Journey

iv. **Panel Discussions**

- Medical Ethics

11. Coursera Online Skill Courses,

Ziauddin University imposed a mandatory requirement for their faculties and employees to get enrolled in at least one free online course of their choice on coursera along with certification. Moreover, faculty and employees could enroll as many courses they wanted with certification. It helped them to boost their learning skills and efficiency in their field.

12. Department of Directorate of Educational Development

Ziauddin University has a separate DED Department for Faculty's training and development. The DED aims to meet educational standards across Ziauddin University in line with global standards. To reach this goal, their strategy is to provide faculty development opportunities for Ziauddin University teachers to let them recognize their teaching roles and act accordingly on their self-improvement plans.

13. Department of Continuing Professional Education

ZU has a CPE Department to help faculty in their professional growth CPE Department arranged educational activities which teach evidence-based practices and identify new and emerging needs and opportunities from research. DED Also build partnership with organizations and institutions to offer educational activities to regional and national medical communities. DCPE sponsors conferences and workshops, including hands-on skills-training, distance education by telephone, webinar, and other innovative and interactive formats.

14. Office of Research, Innovation & Commercialization (ORIC)

ORIC ZU facilitates its faculty and students in quality research publications, disseminates National & International Research Grant opportunities with ZU Faculty and researchers, launched Business incubation program for Students, Faculty, Alumni and Clinicians. ORIC also encourages faculty and researchers to step forward and engage with emerging start-ups or introduce new start-ups based on innovation and new product ideas. ORIC ZU also made linkages of International National collaboration with Universities/Industries.



Guest Speaker Session on Internet of Things



FRIP Workshop for Medical & BDS Students for Basic Lifesaving Skills & Hands-on Practice to encounter emergency situations



Guest Speaker Session on Combating mental health challenges and substance addiction in the Healthcare profession.

ZIAUDDIN UNIVERSITY

DEFEATING BURNOUT AND ANXIETY MINDFULLY

TUESDAY, 7TH SEPTEMBER, 2021 | 02:30PM - 04:30PM
VENUE: MBBS LECTURE HALL, 6TH FLOOR, ZIAUDDIN UNIVERSITY

SUB-TOPICS:

- Difference between Depression and Burnout
- How to manage perfectionism
- Diversity Walk
- Breathing Exercise
- Reframes
- Different activities and games to calm ourselves

HOSTED BY



NAIMA WAQAS
2nd year student
Ziauddin University
BSc Audiology and Speech Language Therapy

OFFICE OF STUDENT AFFAIRS
ZIAUDDIN UNIVERSITY

COLLEGE OF SPEECH LANGUAGE & HEARING SCIENCES
ZIAUDDIN UNIVERSITY



IN CONVERSATION WITH



TEHMINA WAQAS
A psychologist with an experience of 10 years, specializing in Cognitive Behavioral Therapy, DBT (Dialectical Behavioral Therapy), PPT practices and Repetitive Trauma, Childcare, Children and Adolescent Students at Ziauddin College of Language Speech and Hearing Sciences. Associated with Karam Khan (an online Counseling forum), Conducting seminars, workshops and webinars at Ziauddin University, Ziauddin, PAU, ISMAILI, Dubai Islamic Bank, United Energy Pakistan, Schneider Standard and Chevrolet and a dynamic host appearances on BBC Urdu and different channels.

(9221) 35862937-9 | Ext: 2267 | www.zu.edu.pk | student.offices@zu.edu.pk



Workshop on Defeating Burnout & Anxiety Mindfully

ZIAUDDIN UNIVERSITY
THE ESSENTIALS OF E-COMMERCE
 LIVE ON ZIAUDDIN UNIVERSITY
 TUESDAY, 10th AUGUST 2021 | 11:00 AM

SUB-TOPICS:

- What counts as e-Commerce?
- Model of e-Commerce?
- How has e-Commerce changed shopping?
- Why do people use e-Commerce?
- Downside to e-Commerce?
- Steps to setting up an e-Commerce Business?

HOSTED BY: MAHIN KHAN, SYED MAHAZAB PASHA
IN CONVERSATION WITH: NASIR SALEEM

AllDropship
The Easiest Way To Start A Dropshipping Business
 Let us build you a perfect custom store that will work on autopilot and bring you profit for the years to come. [VIEW VIDEO](#)

[SEE OUR PACKAGES](#) [GET FREE CONSULTATION](#)

Online Session on “Essentials of E-Commerce”

ZUDC
 12th Ziauddin University Debating Championship
SAVE THE DATE
 FEBRUARY 12th - 14th
 2021
 REGISTRATIONS WILL OPEN SOON

ZUDC
 ZIAUDDIN UNIVERSITY
 DEBATING CHAMPIONSHIP

ZUDC Debating Championship

SUR SKILLS WORKSHOP

Surgical Skills Workshop

BLOOD BANK

PATHOLOGY

Educational Fair to highlight Diseases and Review of what student have learnt in their previous semesters



Directorate of Educational Development (Dept. for teachers training & development)



Office of Research, Innovation & Commercialization (ORIC)

Sustainability Community Services Projects

1. MAITS Organization

MAITS has agreed to train 6 therapists at Ziauddin University to become MAITS Master Trainers based in Pakistan. These Master Trainer will then train 20 local Community Health Workers on the MAITS package “Caring for Children with Neurodevelopmental Disabilities”. The CHWs in turn shall be able to reach out to 100 families in one year.

Following this training, the master trainers will provide clinical supervision to the trained CHWs at three, six and nine months to collect case studies and provide further guidance.

- The master trainers will continue to be available to answer queries from the CHWs by telephone or email.
- Ziauddin University will submit the case studies through google forms to MAITS every quarter within the first year of the training.
- Ziauddin University will be responsible to manage the Master Trainers and the Community Health Workers and ensure the attendance of the participants in the training sessions.

2. Benazir Bhutto Shaheed Human Resource, Research & Development Board-BBSHRDB

On December 2021, Ziauddin University has signed MoU with the Benazir Bhutto Shaheed Human Resource, Research & Development Board-BBSHRDB to provide trainings on “Livestock Management, Poultry & Pet Management”. Total training candidates would be max 60 and duration of course is 4 months. ZU also provided training with requisite training material, kit, certification and services which are necessary for carrying out successful trainings.

3. Welfare Aid for Ill & Deprived

The welfare association for ill and deprived is a student based non-profit organization founded by students of Ziauddin University which working on human sustainability. As per the observation that patients were declining medical care due to the sole reason of being unable to pay for it. The goal is to provide financial support for

underprivileged patients presenting at the KDLB campus of Ziauddin Hospital. However, the society has expanded its services to needy patients in Civil Hospital, JPMC, and Ziauddin North Campus.

The Welfare AID organized various events for students related to general criteria and sustainability including Bake Sales, Basic Skills workshops, Awareness sessions, bikeathon, Blood Drives, Basic life support trainings etc,. And also arranged sponsors for the events. The generated money from events and sponsorships were used to support the treatment of non-affording patients, orphan ages, Student's sponsorship and on natural calamities.

4. Sewing Course

Ziauddin University Community Service Workers arranged a Sewing course for girl's services in the community of Sikander Abad to make them able to learn the skill and contribute to their families and become productive members of the society.

5. Adult literacy program

5 schools are being run in the community where women are trained for basic mathematical concepts to make them capable enough to do minor transactions.

6. Computer training program

Ziauddin University Department of Family Medicine delivered computer training services in the community of Sikander Abad where Men and women are trained in basic computer literacy to make them eligible to acquire jobs as receptionist/ cashier etc.

7. Primary Healthcare Clinic

Ziauddin University Department of Family Medicine delivered Primary health care clinics services in the community of Sikander Abad. Running six days a week where consultant family physicians see patients at a minimal cost of Rs.50. Clinics include women and child health, mental health clinic, elderly care, Asthma and immunization program. Also, physiotherapy and dentistry services are offered.

8. Mental Health Week

The Department of Clinical Psychology, Ziauddin University celebrated World Mental Health Day 2021 through a series of activities, including Panel discussions, mental health awareness walks and lecture, community work and free mental screening camp on the main campus of the Ziauddin university.

On 18th- 20th Dec, ZU Clinical Psychology students served 2:30 – 4:00 PM with orphans at Sirat ul Jannah Orphanage and make these 3 days memorable for them with involving them in many activities, games, lunch, awareness discussion and clinical camps etc.

