



Abdul Samad Khan

Mechanical Engineer | Lecturer

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26/9/1996



Karachi, Pakistan

“A dedicated and driven Mechanical Engineer with a blend of industrial and academic experience, eager to pursue high-quality research in the field of engineering”

EXPERIENCES

Research & Academics Experience

NED University of Engineering & Technology Karachi

Lecturer

Mechanical Engineering Department

March/2023 – Present

- Working as a Lecturer in the Mechanical Engineering Department.

Courses Taught:

Taught the following courses to the regular students of the undergraduate programme of NED University of Engineering & Technology:

- ✓ ME-318 Heat & Mass Transfer (Theory)
- ✓ ME-311 Manufacturing Processes (Practical)
- ✓ ME-111 Engineering Drawing (Theory & Practical)
- ✓ ME-322 IC Engine & Powerplant Lab (Practical)
- ✓ ME-101 Engineering Mechanics (Theory)

Departmental Administrative Roles

- Serving as a Final Year Design Project (ME – 409) Coordinator in the Mechanical Engineering Department.
- Successfully conducted FYDP Final Year Evaluation exam of batch 2020 in August 2024.
- Successfully conducted FYDP Orientation Session for batch 2021 in July 2024 in the Mechanical Engineering Department.
- Engaged in (Outcome Based Education) OBE-related tasks assigned by the Lead OBE Coordinator.
- Responsible for collecting & managing data of the Exit Survey Forms from the graduating students of MED.
- Established a Health & Safety environment in all MED Labs by installing safety signs on notice boards, following HSE guidelines.
- Collaborated with the 12th and 13th International Mechanical Engineering Conferences (IMEC) as a member of the organizing committee.
- Prepared a comprehensive lab workbook for the course ME-311 Manufacturing Processes.
- Conducted a training with MED HSE team on "Fire Alarm" for the students, faculty and lab staff in Fall Semester 2023 & 2024.

- Organized a training with MED HSE team on "Fire Safety Drill" for the faculty and lab staff in Spring & Fall Semester 2023.
- Executed a training with MED HSE team & Medical department on "First Aid" for the faculty and lab staff in Fall Semester 2023.
- Conducted trainings on *Lab Safety Protocol: Reporting Accidents and Near-Misses* and *Lab Specific Training: Ensuring Competency in Equipment, PPE and Facility Usage* for the lab staff in Spring Semester 2024.
- Attended a *Fire Safety at Workplace* training in July 2024 at the Expo Center, Karachi.
- Collaborated with the management committee to organize the one-day international workshop on "Mitigating Climate Change: Technological and Ecological Solutions" and performed duty on a registration desk for the participants.
- Appointed as "Senior Assistant Presiding Officer" in the General Election 2024.
- Serving as a part of HSEC-DL and prepared an HSE-DL File.
- Participated in workshop Faculty Training for STEM Education organized by UK-Pakistan Science & Global Network (UPSIGN) in collaboration with NEDUET in April 2024.
- Served as an invigilator for NEDUET's Pre-admission Entry Test in 2024.

Undergraduate Final Year Design Project (FYDP) Supervision

- Supervised the FYDP titled *Design and Modification of Pulverizer and Mills for Utilization of Indigenous Thar Lignite in Imported-Coal Fired Power Plants* in collaboration with "Engro Powergen Thar Limited".
- Co-supervised the FYDP titled *Design of a Waste Heat Recovery System from Industrial Internal Combustion Engine* in collaboration with "Indigo Textile Pvt. Ltd."
- Following FYDPs are under co-supervision:
 1. *Stenter Machine Exhaust Gas Heat Recovery System for Industrial Process Utilization* in collaboration with "Mustaqim Dying & Printing Ltd."
 2. *Optimizing Indoor Comfort: Designing an Energy-Efficient HVAC System for a Gymnasium building.*
 3. *Energy & Exergy Analysis of Refrigeration Systems.*

International Peer-Reviewed Journal Publication:

- ✓ **A. Samad Khan**, M. E. ul Haque, A. A. Khan, S. I. ul Haque, S. Obaidullah, and M. U. Khan, "Revitalizing Comfort: Designing an Energy-Efficient HVAC System for the University Auditorium," *Memoria Investigaciones en Ingeniería*, no. 26, pp. 2-37, 2024.

Industrial Experience

Gatron Industries Limited

Assistant Engineer

Powerhouse – Operation

Feb/2021 – March/2023

- Successfully contributed as a Gas Turbine operation engineer in a powerhouse with a total of more than 55 MW installed capacity.
- Expertly managed operation of Gas Turbine and utilities including:
 - ✓ *SOLAR TAURUS 60* Dual Fuel (Gas + Diesel) Gas Turbine of 5.5 MW.
 - ✓ *Gresham* Heat Recovery Steam Generator (HRSG) of 42 bar, water tube boiler capacity of 16 tons.
 - ✓ *GEA Grasso* Natural Gas Compressor.
- Competently handled operation of gas engines including Jenbacher JMS 620 J101 of 3.3 MW and Caterpillar CG - 260 v16 of 4.1 MW Capacity.
- Leading operation of Waste Heat Recovery Boiler (WHRB) of 10 bar.
- Responsible for the effective operation of 10 bar Industrial Dual Fuel (Gas + Diesel) Fire Tube Boiler

of 11-ton capacity.

- Managed operation of Gas Turbine & gas engines with HRSG & WHRB to provide continuous Steam supply for the effective operation of Vapor Absorption Chillers.
- Effectively performed Plant Load Management by coordinating with other synchronized powerhouses and managing load accordingly without disturbing Plant production.
- Efficiently provided uninterrupted power supply to critical departments and prevented load shedding / total shutdown as much as possible. Checking the daily log of Engines + Turbine, Boilers, and other (auxiliaries) reading.
- Responsible for taking overall plant rounds on a daily shift basis and finding out of abnormalities. Proficiently practicing and implementing Permit To Work System for any Electrical / Mechanical Maintenance work with safety precautions, monitoring the daily performance of equipment.
- To keep strict eyes on the running equipment parameters and finding of the optimal solution. Also, report to the Manager for any abnormal activity in the operation of gas engines, Gas Turbine, Gas Compressor, and Boilers who will then be responsible for managing the operational processes required for the safe operation and rectification of any abnormal behavior of the power plant.
- Independently managed whole Power Generation activities with defined SOPs and guidelines to support effective shift operations as per desired criteria.
- Checked chemical lab analysis reports of water quality and provided technical support to the operators to maintain it.
- Assist shift operators for smooth operation of the plant and Energy Meter Readings.
- Prepared Fuel Consumption versus Energy Generation Report.

***Graduate Trainee Engineer
Powerhouse – Operation***

Oct/2020 – Feb/2021

- Overall monitoring of the smooth operations of Gas Turbine, Gas Compressor, HRSG, and Gas Engines with WHRB.

Gatron Industries Limited

***Graduate Trainee Engineer
Utilities – Operation***

Jan/2020 – Oct/2020

- Competently managed operation of HVAC plant including:
 - ✓ Chillers.
 - ✓ Cooling Towers.
 - ✓ Air Handling Units.
- Handled operation of Air Compressor plant including:
 - ✓ Screw & Centrifugal Compressors
 - ✓ Refrigerant Dryers
 - ✓ Desiccant Dryers
- Managed operation of Chillers with Air Handling Units to provide continuous cool air supply to different departments for their effective production.
- Responsibility for taking overall plant rounds daily and finding out of abnormalities related to HVAC or Compressor plants. Proficiently practicing and implementing Permit To Work System for any Electrical / Mechanical Maintenance work with safety precautions, monitoring the daily performance of equipment.
- Checked chemical lab analysis reports of cooling water and provided technical support to the staff to maintain cooling water quality.
- Assist shift operators for smooth operation of the plant.

EDUCATION

Master of Engineering | Mechanical | CGPA 3.93
NED University of Engineering & Technology, Karachi

Nov/2019 - Mar/2022

Bachelor of Engineering | Mechanical | CGPA 3.81
NED University of Engineering & Technology, Karachi

Dec/2015 - Aug/2019

INTERNSHIP

Intern
Orient Energy System Pvt. Ltd

May/2018 - June/2018

PROJECT

Final Year Project (FYP)

Design of HVAC System of NED Auditorium

- ✓ Determining the cooling load of the auditorium.
- ✓ Designing the air conditioning system.
- ✓ Designing the ventilation system.

CERTIFICATIONS

1. PEC Registered Engineer
2. Participated in workshop *Faculty Training for STEM Education* organized by “UK-Pakistan Science & Global Network (UPSIGN)” in collaboration with NEDUET in April 2024.
3. Microsoft Office Specialist (Word 2016)
4. Microsoft Office Specialist (PowerPoint 2016)
5. Autodesk AutoCAD
6. Webinar attended on “Solar & Wind Power Potential in Pakistan” by PEC.
7. Webinar attended on “Artificial Intelligence: Implications for Technologies & Business Strategy” by PEC.

CONFERENCES/WORKSHOP

1. Attended 9th, 12th & 13th International Mechanical Engineering Conference.
2. Attended the 17th World Wind Energy Conference & Exhibition 2018 (WWEC).
3. Attended one day International Workshop on *Mitigating Climate Change: Technological and Ecological Solutions*.

SKILLS

* Gas Turbine * HRSG * Gas Engine * WHRB * Analytical & Problem Solving
* Microsoft Office * SAP S/4 HANA (Basic) * Origin * GIMP

ACHIEVEMENT

- ✓ Awarded as **Member Organizing Committee** in 13th International Mechanical Engineering Conference (IMEC) 2024.
- ✓ Awarded as a **Judge** at the Abul Kalam Design Challenge (AKDC) 2023 event, organized by IMeche NED Student Chapter.
- ✓ Awarded as a **Special Guest** at the Propellair 2023 event organized by IMeche NED Student Chapter.
- ✓ Awarded **Laptop** through Prime Minister Laptop Scheme.