Abdul Samad Khan

Mechanical Engineer | Lecturer

(PEC No. MECH/43165)

+923401222377 | abdulsamadkhan@neduet.edu.pk | ask.ned.1996@gmail.com | https://www.linkedin.com/in/abdulsamad96

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-101 Engineering Mechanics (Theory)
- ✓ ME-111 Engineering Drawing (Theory & Practical)
- ✓ ME-311 Manufacturing Processes (Practical)
- ✓ ME-315 Heat & Mass Transfer (Theory & Practical)
- ✓ ME-318 Heat & Mass Transfer (Theory)
- ✓ ME-319 Refrigeration and Air-Conditioning (Theory)
- ✓ ME-322 IC Engine & Powerplant Lab (Practical)
- ✓ ME-439 Mechatronics (Practical)

Departmental Administrative Roles

- Serving as a Final Year Design Project (ME – 409) Coordinator in the Mechanical Engineering Department.
- Responsible for conducting the FYDP Mid and Final Year Evaluation exam for the final year students in the Mechanical Engineering Department.
- Responsible for conducting FYDP Orientation Session for the final year students in the Mechanical Engineering Department.
- Engaged in (Outcome-Based Education) OBE-related tasks assigned by the Lead OBE Coordinator.
- Responsible for collecting & managing data from the Exit Survey Forms completed by graduating students of MED. Successfully submitted the consolidated data to the Director of QEC for statistical analysis, which resulted in the survey achieving an "Excellent" rating.
- Established a Health & Safety environment in all MED Labs by installing safety signs on notice boards, following HSE guidelines.

- Collaborated with the 12th, 13th & 14th 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 the MED HSE team on "Fire Alarm" for the students, faculty, and lab staff in Fall Semester 2023 & 2024.
- Organized a training with the MED HSE team on "Fire Safety Drill" for the faculty and lab staff in Spring & Fall Semester 2023.
- Executed a training with the 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 the workshop Faculty Training for STEM Education, organized by UK-Pakistan Science & Global Network (UPSIGN) in collaboration with NEDUET in April 2024.
- Acted as an invigilator for the Mid-term, Final, Master's, and backlog exams for all the Spring & Fall Semesters in the department.
- Served as an invigilator for NEDUET's Pre-admission Entry Test in 2024 & 2025.
- Responsible for welcoming and guiding new students through the MED department laboratories on the Open Day.
- Responsible for organizing a Fire Alarm drill for all faculty, staff, and students of the Mechanical Engineering Department in the Spring & Fall Semesters.
- Conducted an OBE training session on *FYDP Evaluation and Assessment* for the faculty of MED in May 2025.
- Collaboratively arranged a session on *Understanding Research Papers: Structure, Classification, Literature Review, and Effective Reading* with the other faculty member for the final year students of batch 2021 in the Mechanical Engineering Department in September 2024.
- Attended a four-day Faculty Development Training Program titled *Technology Transformation Dissemination Session* organized under the Erasmus+ capacity building project "GetInnovative4Impact" held in December 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".
- Successfully co-supervised the Final Year Design Project (FYDP) with the following titles:
  - ✓ *Design of a Waste Heat Recovery System from an Industrial Internal Combustion Engine* in collaboration with "Indigo Textile Pvt. Ltd."
  - ✓ *Stenter Machine Exhaust Gas Heat Recovery System for Industrial Process Utilization*, in collaboration with "Mustaqim Dyeing & Printing Ltd".
  - ✓ *Optimizing Indoor Comfort: Designing an Energy-Efficient HVAC System for a Gymnasium Building*.
  - ✓ *Energy and 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, & M. U. Khan. (2024). Revitalizing Comfort: Designing an Energy–Efficient HVAC System for the University

Auditorium. *Memoria Investigaciones en Ingeniería*, (26), 2–37. https://doi.org/10.36561/ING.26.2

- ✓ **Khan, A. S.**, Khan, A. A., Ali, S. U., Javed, A., & Farman, M. (2025). Optimizing coal mill for efficient Thar lignite utilization. *International Journal of Coal Preparation and Utilization*, 1–25. https://doi.org/10.1080/19392699.2024.2448710

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 installed capacity 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 the 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 the Waste Heat Recovery Boiler (WHRB) of 10 bar.
- Responsible for the effective operation of a 10-bar Industrial Dual Fuel (Gas + Diesel) Fire Tube Boiler of 11-ton capacity.
- Managed the operation of Gas Turbine & gas engines with HRSG & WHRB to provide a 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 an 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 the Permit to Work System for any Electrical / Mechanical Maintenance work with safety precautions, monitoring the daily performance of equipment.
- To keep a strict eye on the running equipment parameters and find 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 the whole Power Generation activities with defined SOPs and guidelines to support effective shift operations as per the 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 the Gas Turbine, Gas Compressor, HRSG, and Gas Engines with WHRB.

Gatron Industries Limited

Graduate Trainee Engineer
Utilities – Operation **Jan/2020 – Oct/2020**

- Competently managed the operation of the HVAC plant, including:
  - ✓ Chillers.
  - ✓ Cooling Towers.
  - ✓ Air Handling Units.
- Handled the operation of the Air Compressor plant, including:
  - ✓ Screw & Centrifugal Compressors
  - ✓ Refrigerant Dryers
  - ✓ Desiccant Dryers
- Managed the operation of Chillers with Air Handling Units to provide a continuous cool air supply to different departments for their effective production.
- Responsibility for taking overall plant rounds daily and finding out abnormalities related to HVAC or Compressor plants. Proficiently practicing and implementing the 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 the smooth operation of the plant.

EDUCATION

Master of Engineering | Mechanical | CGPA 3.93 **Nov/2019 - Mar/2022**
NED University of Engineering & Technology, Karachi

Bachelor of Engineering | Mechanical | CGPA 3.81 **Dec/2015 - Aug/2019**
NED University of Engineering & Technology, Karachi

INTERNSHIP

Intern **May/2018 - June/2018**
Orient Energy System Pvt. Ltd

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. Certified workshop on *Faculty Training for STEM Education,* organized by "UK-Pakistan Science & Global Network (UPSIGN)" in collaboration with NEDUET.
3. Microsoft Office Specialist (Word 2016)
4. Microsoft Office Specialist (PowerPoint 2016)
5. Autodesk AutoCAD
6. Webinar on *Solar & Wind Power Potential in Pakistan* by PEC.
7. Webinar on *Artificial Intelligence: Implications for Technologies & Business Strategy* by PEC.
8. Certified training on *Fire Safety at Workplace* held at the Expo Center, Karachi.
9. Certified Faculty Development Training Program titled *Technology Transformation Dissemination Session,* organized under the Erasmus+ capacity building project

"GetInnovative4Impact".

CONFERENCES/WORKSHOPS

1. Attended the 9th, 12th, 13th & 14th 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 a **Member Organizing Committee** for the 13th & 14th International Mechanical Engineering Conference (IMEC).
- ✓ 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 a **Laptop** through the Prime Minister Laptop Scheme.