

# Ahsan AHMED

## Mechanical Engineer | Lecturer

[ahsanahmed@neduet.edu.pk](mailto:ahsanahmed@neduet.edu.pk)



### *Objective:*

---

*“To pursue high-quality research in the field of engineering in a growing and dynamic organization which would provide me local and global opportunities to provide innovative, efficient and effective solutions to the society and refine raw student into a productive researcher.”*

### *Qualification:*

---

- **Master in Energy and Plant Management**  
NED University of Engineering and Technology, Karachi  
CGPA: 3.94 (1<sup>st</sup> Position), 2018
- **Bachelor in Mechanical Engineering**  
NED University of Engineering and Technology, Karachi  
CGPA: 3.521, 2014
- **Higher School Certificate (H.Sc. Pre. Engg.), Intermediate Board, Karachi**  
College of Emerging Technologies, Karachi. **Percentage: 84%**, A-1 Grade
- **Secondary School Certificate (Science Group), Secondary Board, Karachi**  
Light House Public School, Karachi. **Percentage: 88%**, A-1 Grade

### *Academic Working Experience:*

---

- **NED University of Engineering & Technology**  
(December 2018 – To Date)

Currently working as a Lecturer (on contract basis) in the Department of Mechanical Engineering, NED University of Engineering & Technology (NEDUET), Karachi, Pakistan.

#### ***Courses Taught:***

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



- ✓ ME-217 Elements of Machine Dynamics and Design (Theory)
- ✓ MF-303 Applied Economics for Engineers (Theory)
- ✓ ME-224 Internal Combustion Engines (Theory)
- ✓ ME-207 Computer Programming & Graphics (Theory)
- ✓ ME-209 Materials & Metallurgy (Practical)
- ✓ ME-323 Machine Design (Practical)

***Students' Feedback:***

Achieved ISO Students' Feedback Ratings of 9.649 and 9.386 in Spring and Fall Semester 2019 respectively.

***Supervised Final Year Projects (FYP):***

Supervised and supervising following FYP in the Department of Mechanical Engineering:

- ✓ Design & Analysis of Hybrid Photo Voltaic Thermal Water collector.
- ✓ Designing of Vapor Absorption Chiller for Waste Heat Recovery from Engine Jacket Water System
- ✓ Designing of Three Wheeler Electric Vehicle

***Awarded Funding:***

In 2020, My FYP "Designing of Three Wheeler Electric Vehicle" was awarded with IGNITE NGIRI 2020 FYP Funding.

***International Journal Publications:***

Following journal paper is published in Greater Mekong Sub-region Academic and Research Network (GMSARN) International Journal (Scopus).

- ✓ A. Naqvi, **A. Ahmed**, M. J. Murtaza, A. Majeed, K. U. Ahmed and S. M. Bari, "**Performance Evaluation of Hybrid PVT Air Collector. A Comparative Study,**" GMSARN International Journal, no. 2, June 2022.

***International Peer Reviewed Conference Publication:***

Following conference paper won the **best paper award** in the 10<sup>th</sup> International Mechanical Engineering Conference, jointly organized by The Institution of Engineers Pakistan, NED University of Engineering & Technology, Mehran University of Engineering & Technology Jamshoro and NEDian International Alumni Association:

- ✓ Asad A. Naqvi, **Ahsan Ahmed**, Muhammad Kazim, "**Techno-economic Analysis of Hybrid Photovoltaic Thermal (PVT) Air Collector**", presented at 10<sup>th</sup> International Mechanical Engineering Conference (IMEC 2020-21), NED University of Engineering & Technology ,Karachi, Pakistan, Feb. 2021.

***Additional Administrative Roles:***

While working as a lecturer, following additional administrative roles are also assigned to me by the Chairman of Department of Mechanical Engineering:

- ✓ OBE Coordinator
- ✓ Library Focal Person
- ✓ Learning Management System Coordinator.

### ***Other Major Achievements:***

Following are some of my significant administrative achievements during my tenure in the Department of Mechanical Engineering

- ✓ Prepared Self-Assessment Report (SAR) 2020 for the undergraduate programme of Department of Mechanical Engineering.
- ✓ Prepared number of tutorial videos to help and guide all faculty members. G-suite tutorial videos are uploaded on the official webpage of MED. Dr. Asad Arfeen (DIT, NED) acknowledged and admired my efforts. He also has shared my efforts with the honorable VC and all other users of NEDUET's Zimbira Web Client.
- ✓ Designed and implemented online class attendance system. In this system, the student attendance is taken in the class using a smart phone or a laptop and the teacher submits the attendance to the department online in real time. CMD shared the said attendance system and its advantages with the VC and the PVC via letter ref: NED/MED/2019/3396 dated: October 30, 2019.
- ✓ Familiarized faculty members to G-suite and trained them for recording video lectures and conducting online sessions.
- ✓ Prepared a record of books, courses and lab equipment for the Department of Mechanical Engineering of Thar Institute of Engineering, Sciences and Technology.
- ✓ Developed course contents and course material for a personality development training program entitled, "Team-work: Getting People to work together". This training course will be delivered to the undergraduate students from the upcoming regular semesters.
- ✓ Participated in the setup completion and successful running of OBE MIS system in Department of Mechanical Engineering.

### **Industrial Working Experience:**

---

- **National Refinery Limited** (September 2016 – December 2018)  
ISO 9001, ISO 14001, OHSAS 18001, RELATED AA+ & A-1 BY PACRA

Worked in National Refinery Limited as a **Maintenance Engineer** (Utilities and Power Generation) and served NRL through my managerial, technical, analytical and problem-solving. My scope of job included maintenance management and planning of the following: pumps, compressors, turbines, air coolers (or radiators), cooling towers, vessels, heat exchangers, boilers, tanks etc. and their associated piping.



#### ***Responsibilities:***

Following were some major responsibilities which I was fulfilling with team work in National Refinery Limited:

- ✓ Planning, scheduling, managing and monitoring routine & priority based maintenance jobs of all the rotary and stationary equipment with the best available combination of *American Petroleum Institute's* standards and site realities.

- ✓ Preparing purchase requisitions, job orders, material requisitions, job completion certificates and management of inventory through ERP system (*SAP ECC 6.0 Plant Maintenance Module*).
- ✓ Dealing and supervising contractors for the completion of jobs in a best possible way as per *API* and company standards.
- ✓ Reviewing process flow diagrams, *piping and instrumentation diagram* and *engineering drawing* to seek any change or development and for making a bill of quantity of materials for the assignment to be done.
- ✓ Managing, executing and monitoring different modification jobs to facilitate the enhancement as well as improvement of equipment/process.
- ✓ Coordinating and supervising the annual or emergency shutdown of priority equipment.
- ✓ Technically evaluate the proposals, provided by the vendors for the raised purchase requisition.
- ✓ Preparing spot bids, cost estimation and budgeting for special assignments and projects.
- ✓ Preparing punch list on completion of the work and ensuring that all punch list items are attended by the contractor before issue of completion certificate.
- ✓ Preparing maintenance reports and other associated documents for audit and instrumentation and management system.
- ✓ Inspection of received goods like valves, fittings, pipe or any requested material in light of *ANSI /ASME/API/ ASTM* standards.
- ✓ Coordinating with different departments like operations, warehouse, workshop, projects, manufacturing, procurement, imports, administration etc. for resolving different issues.
- ✓ Authorized to receive all types of work permits like hot work permit , excavation permit, crane operation permit, confined space entry permit, electrical energize/de-energize permit and cold work permit.
- ✓ Participating in turnaround activities on different equipment.
- ✓ Ensuring safety in all aspects of maintenance works.

➤ **National Refinery Limited** (September, 2015– September, 2016)

Got on-the-job training in National Refinery Limited as Trainee Senior Management.



**Highlights:**

During my training in NRL, I was rotated through the following departments of NRL:

- ✓ **Engineering Department:** Technical Evaluation of quotations from Vendors, Evaluation and approval of manufacturing drawings from vendors. Tender Preparation and application of codes and standards as per their requirements.
- ✓ **Turnaround Planning:** Participated in the turnaround planning process by studying modification drawings and making the list of materials for procurement and manufacturing.
- ✓ **Local Manufacturing Cell:** Carried out all the activities such as receiving the notice of manufacturing (NOM), Making and sending requests for quotation, bid opening, analyzing the bids, issuing work order and receiving of material from the local vendors. Co-coordinating with the vendors to ensure the manufacturing of parts as per requirement. Using SAP Material Management Module to make quotations, cost comparison statements, work orders and bill parking.
- ✓ **Inspection Department:** Experienced the inspection techniques such as Ultrasonic thickness measurement, Die penetration test, Vibration monitoring of rotary equipment and Pressure testing of heat exchangers and boilers. Scheduling of internal inspection of storage tanks.
- ✓ **Maintenance Department:** Planning and Supervising daily maintenance and preventive maintenance jobs. Writing maintenance reports. Arrangement of spare parts and raising Notice of requirement (NOR) and Notice of Manufacturing (NOM) of Spare parts. Learned the SAP Plant Maintenance and Material Management Module.

**Turnaround / Shutdown:**

---

**- Fuel Refinery (24 X 7 ) Turnaround 2016 (April 24<sup>th</sup>, 2016- May 31<sup>st</sup>, 2016)**

Served in the 12 hours shift of fuel refinery turnaround 2016 in Inspection Team for Heat Exchangers inspection.

**Responsibilities:**

Following are some major responsibilities which I fulfilled as an inspection team member in National Refinery Limited:

- ✓ Initial inspection of Heat Exchangers shell and tube bundle.
- ✓ Pre cleaning and post cleaning final examination of heat exchangers in the light of TEMA, API 660 and ASME Sec. VIII .
- ✓ Providing recommendations for maintenance jobs (if needed).
- ✓ Hydrotesting (rolling test, tube side test, shell side test) of heat exchangers.
- ✓ Box-up of heat exchangers after complete satisfaction of all concerned individuals.

## Internship Experience:

---

- **Karachi Shipyard & Engineering Works LTD.**  
(Dec, 2012.Threeweeks)

Have a priceless experience of working in Karachi Shipyard & Engineering Works LTD where I have learnt how to work in an industry environment and gained a precious practical experience of different ship building process which I wouldn't be able to learn in theory's perspective.



- **Pakistan International Airlines** (Jun, 2013.Threeweeks)

Have another marvelous experience of internship in Pakistan International Airlines where I have learnt how to work in an avionics industry environment and gained a precious practical experience of different airplanes' models, engines and their maintenance procedure.



## Certified Trainings :

---

- **Team-Work: Getting People Work Together**

Started on: February 24, 2020  
Ended on: February 26, 2020  
Institute: Pakistan Institute of Management (PIM)

- **Design and Function of Steam Turbine and Gearbox**

Started on: September 16, 2017  
Ended on: September 19, 2017  
Institute: Siemens, Germany

- **Welding Consumables and Equipment**

Started on: October 06, 2015  
Ended on: October 06, 2015  
Institute: Linde Pakistan and Industrial Development & Engineering Associates (IDEA)

- **Product Development using CAD/CAM Unigraphics NX-8**

Started on: June 09, 2014  
Ended on: June 18, 2014  
Institute: CCEE, NED University of Engineering & Technology

- **Computer Audio / Video Editing & Mixing**

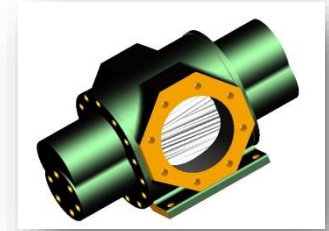
Started on: February 01, 2008  
Ended on: July 30, 2008  
Institute: Global Computer Institute (Regd. by SBTE)

## Final Year Project:

---

### Design of a gear pump:

In this project, we, as a group, first chose a flow rate for which we would design a gear pump. So, for this purpose, we visited PSO TERMINAL-3 where we got primary specifications of a gear pump and then we determined technical specifications. After that, we designed the 3D model of a gear pump on PRO-E and finally got a safe design on ANSYS.



## Relevant skills:

---

### 1-Computer Skills:

- **ERP Software:** SAP ECC 6.0 (Plant Maintenance Module)
- **Design Softwares:** Hourly Analysis Program, Unigraphics NX-8 & Adobe Illustrator
- **Modeling Softwares:** PVsyst, Ret Screen & Homer
- **LMS:** G-suite
- **Statistical Softwares:** Minitab, SPSS
- **Video Editing Softwares:** Filmora, Camtasia, OBS
- **Other Softwares:** Microsoft Office, Adobe Photoshop, Turbo-C

### 2-Managerial Skills:

- Outstanding leadership and management skills of dealing with unionized staff
- Marvelous communication, interpersonal, and management skills
- Excellent management potentials with strong confrontation, persuasion and planning capabilities
- Maintaining all office documentation with proficiency
- Good systematic and analytical problem solving approach
- Function well as both independently and as a team member
- Adapt easily to new concepts and can adapt myself in an Environment of changing circumstances

### 3-Technical Skills:

- Practical experience of operating Lathe, Milling, Welding, Grinding and Drilling machines
- Can calculate cooling loads for different situations through HAP
- Can plan, execute, manage and monitor different projects' planning and execution
- Have skills and experience of inspection and maintenance activities of boiler and shell & tube heat exchangers

### 4-Sportsman Skills:

- Ex player of NRL Cricket Team.
- Played many tape ball and hard ball cricket tournaments
- Organized many day and night cricket tournaments
- Played badminton at inter-societies level

## **Industrial Visits:**

---

- **Bolan Castings Limited (BCL) – since 1982**  
Manufacturing more than 16,000 tons / year of tractor and automotive castings (of more than 200 different types) in grey and ductile iron.
- **Hinopak Motors Limited**  
Assembles, manufactures and markets world renowned Hino diesel trucks and buses in Pakistan.
- **PSO Terminal – 3**  
Markets and distributes Motor Gasoline (Mogas), High Speed Diesel (HSD), Furnace Oil (FO), Jet Fuel (JP-1), Kerosene, CNG, LPG, Petrochemicals and Lubricants.

## **Awards & Achievements:**

---

- Awarded laptop through Prime Minister Laptop Scheme.
- Authorized to receive all types of work permits just after 2 months of training completion in NRL.
- Awarded scholarship by **Bhaimia Foundation** at undergraduate level.
- Organized quiz competitions for **ASME (American Society of Mechanical Engineers)**
- Organized a workshop of Design Engineering for **ASME (American Society of Mechanical Engineers)**
- Attended several Workshops & Seminars at **NED University of Engineering & Technology**
- Served as the **Chairman of Student Council, NCR-CET**
- Served as the **Head boy, Light House Public School**
- Organized several day and night cricket tournaments
- Served as the **Captain of Cricket Team, Light House Public School**