



Workshop on Operation, Maintenance and troubleshooting of Pumps, Compressors and Valves

July 4 – 8, 2022

**Venue: Grand Excelsior Hotel,
Kuwait Road, Bur Dubai,
Dubai, UAE**

Course Fee: \$4,000 per Participant

Program Overview:

Pumps, Compressors and Valves are major equipment in all petrochemical, refinery and petroleum firms. Understanding the function, operation, and troubleshooting of these equipment is a must to maintain the production and maximizing the profitability of the plant. Right specification and appropriate selection of these equipment increases the plant reliability, reduces the downtime and operating and maintenance costs. This course will discuss this major equipment over five days and cover different aspects that the involved engineers and technician involved to master.

FOR WHOM:

Engineers, technicians and managers responsible for selection, installation, machinery failure analysis, troubleshooting and maintenance of Pumps, Compressors and Valves need to attend this course.

LEARNING OBJECTIVES:

At the end of the course, participants will be able to:

Have an understanding of the different types of pumps, valves, compressors and their associated terminology

Have an understanding of Centrifugal and positive displacement pumps, packing, mechanical seals and sealing systems, bearings and couplings

Have an understanding of different parameters affecting the operation of valves

Have the ability to select the right valve for the particular application and to perform the necessary calculation for valve sizing

Have the ability to perform troubleshooting of systems involving valves and compressors

Have the ability to decide on the right maintenance plan concerning different types of valves and compressors

Course outline:

Day 1: Pumps

- Pumping Methods
- Types and Range of operation
- PD Pumps, Reciprocating and Rotary Types
- Dynamic Pumps, Centrifugal and Axial-Flow Pumps
- Pumps Operation, Performance & Control

Day 2: Seals, Bearings, and Installation

- Pumps Failures,
- Troubleshooting and Maintenance
- Cavitation in Pumps

Day 3: Compressors

- Compressible vs. Incompressible Fluids
- Gas State Equation, Ideal vs. Actual Gas
- Compression Methods

- Types and Range of Operation
- PD Compressors, Reciprocators and Rotary Compressors
- Centrifugal and Axial Flow Compressors
- Multistage Compressors
- Map of Compressors

Day 4: Failure Modes and Maintenance

- Anti-Surge Systems
- Dry Seal and Journal Bearings
- Valves
- Valves Technology
- Leak Tight Characteristics
- Flow Characteristics
- Pressure Classification

Day 5: Control Valves

- Check Valves
- Safety Relief Valves
- Valves Sizing and Selection
- Troubleshooting and Maintenance
- Case Studies Discussions,
- Last Day Review & Assessments

Note: There will be Dubai city tour on day 5

Training Methodology

Lectures, discussions, exercises, case studies, audio-visual aids will be used to reinforce these teaching/learning methods.

For bookings and inquiries, call: +234-8145745664, +234-8184727337 (Office Lines)

24/7 Lines: +234-8068933608, +234-8029170491 & +234-8051365946

Or send us an email: info@hcaglobalconsult.com or hcaglobalconsult@gmail.com