

Course Overview:

Pumps and compressors find extensive use in power plants, water circulation systems, A/C and heating systems, and many other applications. Keeping these machines running with least troubles and shutdown decreases the downtime of the whole system. Right machine selection appropriate to the right application, right machine operation, effective maintenance programs, reliable monitoring system, and skilled personnel capable of doing the right trouble shooting are essential requirements for prolong machine life.

Course Objective:

- Familiarize the Attendees with different types of pumps and compressors
- Learn the appropriate operation methods. By learning the operation limits of the machine
- Upgrading the knowledge of problems and solutions for pumps and compressors
- Exercising examples of troubleshooting methods
- Highlight the importance of cavitation in pumps and stall in compressors
- Highlight the importance of seals and bearings on pumps and compressors availability
- Learn the importance and methods of lubrication

Course Outline:

- Overview of various types of pumps based on design and application
- World standards and codes related to pump design
- Main elements of centrifugal pump construction
- Design of pump-suction piping
- Selection and sizing of centrifugal pump
- Solving problems in operation
- Positive displacement pumps: reciprocating and rotary
- Pump requirements for chemical, process and oil industry, power generation
- Pumps for special applications
- Guidelines for pump installation and operation
- Pump inspection, control and performance testing
- Maintenance and troubleshooting of pumps
- Overview of the main features of various types of compressors
- Classification of compressors based on design and application
- World standards and codes related to compressor design
- Main elements of centrifugal compressor construction
- Analysis of centrifugal compressor efficiency
- Guidelines for trouble-free centrifugal compressor operation
- Positive displacement compressors: Reciprocating and Rotary
- Basic criteria for selecting the optimum cost-effective compressor
- Compressor loadings and speeds; noise control and protection
- Compressors for special applications
- Guidelines for compressor installation and operation
- Compressor inspection, maintenance, control, performance testing and

Training Language:

Eng/Ar

Training Methodology:

- Presentation & Slides
- Audio Visual Aids
- Interactive Discussion
- Participatory Exercise
- Action Learning
- Class Activities
- Case Studies
- Workshops
- Simulation

troubleshooting

Who Should Attend:

- Facilities managers
- Engineers
- Technicians and supervisors
- Operations personnel
- Consultants and contractors