LONDON - UK **14-18 DEC 2026**

INDUSTRIAL PUMPS – RELIABILITY & MAINTENANCE

Why Choose this Training Course?

This comprehensive **Industrial Pumps – Reliability & Maintenance** training course provides in-depth knowledge of pump technologies, failure modes, performance monitoring, and best practices in maintenance. Pumps are the heart of most industrial processes, and their reliability is vital for safe, continuous, and cost-effective operations. This course offers practical insights into pump selection, operation, troubleshooting, and reliability strategies.

Participants will benefit from a detailed study of centrifugal and positive displacement pumps, vibration analysis, seal systems, and energy optimization practices. The course will also highlight advanced maintenance techniques and root cause failure analysis to improve Mean Time Between Failures (MTBF) and reduce downtime.

Whether you're a new technician or a seasoned engineer, this course helps ensure better understanding, planning, and execution of pump maintenance strategies that lead to enhanced plant availability and efficiency.

What are the Goals?

- Understand the principles of pump operation, selection, and system interaction
- Identify common failure modes and apply troubleshooting techniques
- Evaluate performance parameters to improve reliability and efficiency
- Apply preventive and predictive maintenance practices
- Implement reliability-centered maintenance (RCM) strategies
- Improve safety, energy efficiency, and reduce maintenance costs

Who is this Training Course for?

This course is ideal for:

- Mechanical engineers and supervisors
- Maintenance engineers and planners
- Reliability and condition monitoring professionals
- Process engineers and utility plant personnel
- Maintenance technicians and operators
- Anyone involved in rotating equipment management

How will this Training Course be Presented?

This course uses proven adult learning methodologies to ensure engagement and retention. It includes interactive lectures, real-life case studies, multimedia presentations, group exercises, and problem-solving workshops. Participants will actively engage in diagnosing faults, discussing preventive strategies, and exploring industry best practices.

The training focuses on critical thinking, practical application, and understanding of how pump systems behave under various conditions.

- Confidence in selecting and operating the right pump for any application
- Skills to reduce energy consumption and improve pump efficiency

Course Outline

Day One: Introduction to Pump Systems

- Classification of industrial pumps
- Centrifugal vs Positive Displacement pumps
- Pump performance curves and system head
- Affinity laws and pump sizing
- Pump construction and component identification
- Common pumping system challenges

Day Two: Pump Operation and Troubleshooting

- Pump/system interaction and Net Positive Suction Head (NPSH)
- Suction and discharge piping design
- Cavitation: causes, detection, and prevention
- Troubleshooting techniques for operational issues
- Flow and pressure-related problems
- Performance testing and interpretation of results

Day Three: Maintenance Strategies

- Preventive, predictive, and corrective maintenance
- Pump alignment and soft-foot correction
- Lubrication and bearing management
- Mechanical seals and seal system maintenance
- Maintenance planning and scheduling
- Maintenance records and documentatin

Day Four: Condition Monitoring & Reliability Engineering

- Vibration analysis and interpretation
- Thermography, oil analysis, and other predictive tools
- Root Cause Failure Analysis (RCFA)
- Introduction to Reliability-Centered Maintenance (RCM)
- Mean Time Between Failures (MTBF) improvements
- Case studies of pump failures and successful interventions

Day Five: Energy Efficiency, Installation & Optimization

- Energy-saving opportunities in pump systems
- Pump selection for energy-efficient operation
- Pump installation and commissioning practices
- Best practices in spare parts management
- Training workshop: Pump troubleshooting scenarios
- Final review and course-end assessment

Course Completion Certificate

On successful completion of the Training Course, the participants will be awarded with a 5M

Training Fees details:

Number of Participants	Course Price
1 participant	KWD 1650.000
2 participants	KWD 1600.000
3 participants	KWD 1550.000
4 participants	KWD 1500.000
5 participants	KWD 1450.000
6 and above participants	KWD 1400.000