



Course: Pump Professional (Operation, Maintenance and Troubleshooting)

Code	City	hotel	Start	End	Hours	price
812	DUBAI (UAE)	Hotel Meeting Room	2026-10-26	2026-10-30		3450 €

Outline

Introduction and Pumping Fundamentals:-

- Hydraulics - A Few Basics
- Vapor Pressure
- Operating Parameters
- Pump Types and Pump Classification
- Centrifugal via Displacement Action
- Rotary Displacement Pumps
- Centrifugal Pump Basics
- Principle of Operation
- Pumping Vertically & Pumping Horizontally
- Single-stage, Double-stage and Multi-stage Pumps
- Volute & Diffuser Pumps
- Closed Impeller, Open, Impeller or Semi-open Impeller
- Casing Construction (Radially Split, Axially Split, Double Casing)
- Impeller Shrouds (Open, Partially Open, Closed)
- Shaft Position (Horizontal, Vertical)
- Wear Ring Running Clearances

Pumps Performance and Operation:-

- Pump Performance Curves
- Limits of Operation



- The Significant of the Specific Speed and the Specific Diameter
- How to Use Specific Speed Number in Pumps Selection Process
- Operating Procedures and Conditions
- Pump Curve Against Piping System Curve
- NPSH Available, Required and Measurement
- Best Operating Condition

High Pressure Pump Selection and Materials:-

- Material Selection
- Corrosion and Erosion
- Abrasion Resistant Materials
- Materials Resistant to Cavitation Damage
- Overall Procedure in Selecting a Pump
- Parameters Affecting the Pump Selections
- Properties of Liquids being Pumped
- Economic Consideration
- Pumps Application

Pump Auxiliary System:-

- Sealing Methods
- Difference between Packing and Mechanical Seal
- Characteristics and Types of Mechanical Seals
- Sealing and Flushing Fluids
- Pump Bearings
- Lubrication of Bearing
- Bearings - failure modes and how to extend life
- Alignment and Couplings

Maintenance and Troubleshooting:-

- Pump Maintenance



- Maintenance Inspections
- Bearing Maintenance
- Shaft Seal Maintenance
- Pump Overhauling
- Disassembly / Dismantling Procedure
- Pump Troubleshooting and Failure Analysis
- Shaft Deflection
- Cavitation in Pumps
- Pump Vibration
- Operation and Maintenance Troubleshooting



The Scandinavian Academy for Training and Development adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training and Development.

Program Timings:

- 9:00 AM to 2:00 PM in Arab cities.
- 10:00 AM to 3:00 PM in European and Asian cities.

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.