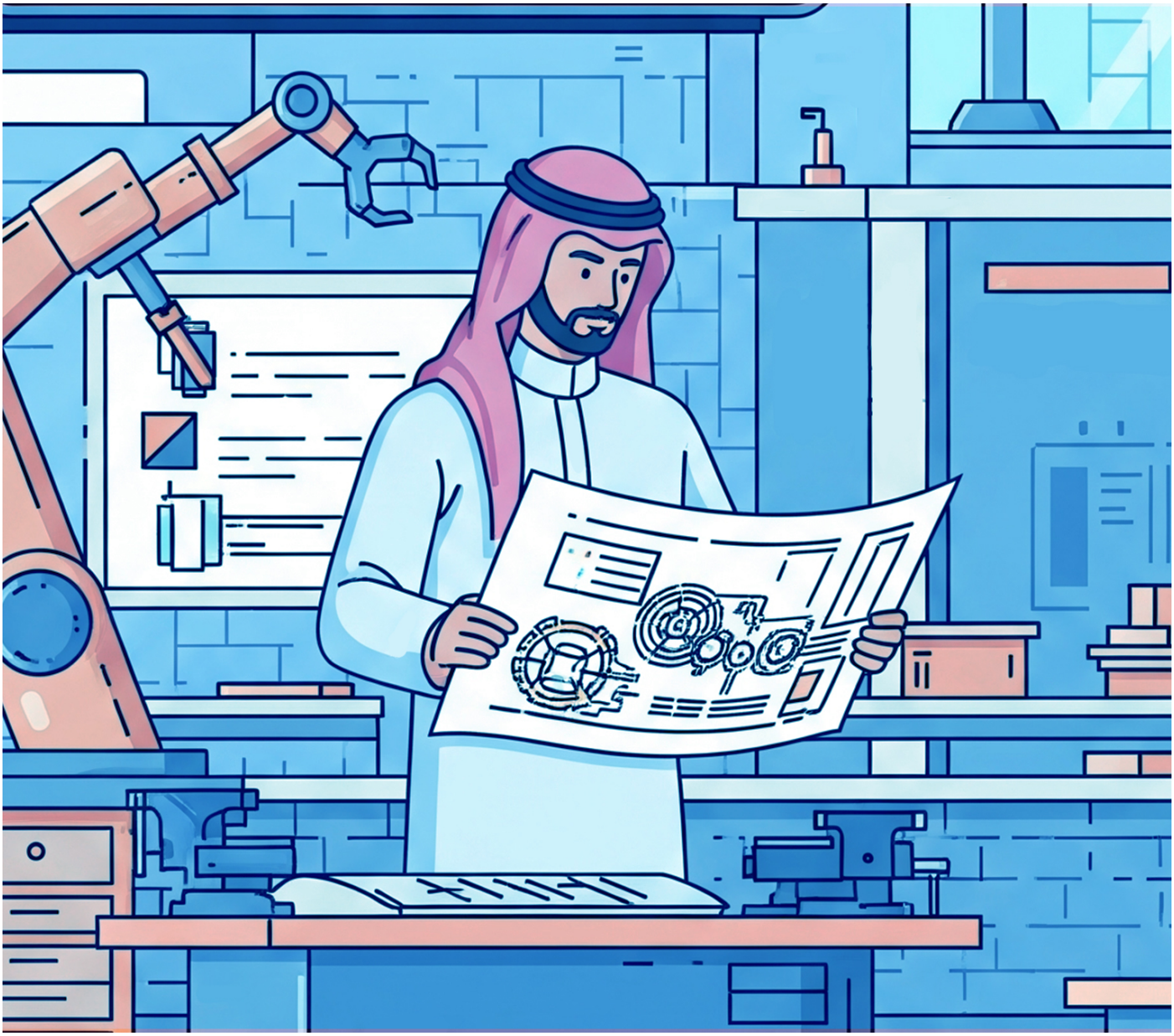
BOOST
THE LEADING TRAINING PROVIDER



Mechanical Engineering

Mechanical Rotating Equipment: Operation, Maintenance, Inspection

Course Introduction

Rotating equipment’s are the most major capital cost items, a key reliability problem and consume huge amounts of energy. For most companies the costs of owning and running rotating equipment’s are much higher than they should be.

A shortage in general knowledge of how to apply, specify, install and operate those equipment’s is the major reasons for these high costs. This training course is designed to address this problem.

Our Total rotating equipment’s course is an in depth look at common equipment’s applications, including selection, operation, troubleshooting, and maintenance. Individuals in industry will find this to be a valuable course for learning the importance of proper equipment operation and typical behavior and troubleshooting in application.

Target Audience

- Automotive Engineer
- Boiler Engineer
- Ceramics Engineer
- Equipment Engineer
- High-Pressure Engineer
- Marine Engineer
- Mechanical Design Engineer
- Mechanical Engineer
- Naval Architect
- Pipeline Engineer
- Power Engineer
- Rotating Equipment Engineer
- Senior Mechanical Engineer
- Turbine Engineer
- Validation Engineer

Learning Objectives

- Understanding Safety & General Underpinning Knowledge
- Rotating equipment components and function.
- Operation and maintenance of most common use of equipment's.
- General procedures for troubleshooting and solving problems.
- Proper maintenance arrangement for proper installation.
- Familiarization with ISO standard API related to each equipment.
- Understand the Hydraulics & Pneumatics • Understand Heat Exchangers functions
- Understand Plant Maintenance • understand Breaking containment
- Know the Pipes, Flanges & Pipe work
- Understand Rigging & Lifting techniques – general awareness for vertical, uncomplicated lifting

Course Outline

- **01 DAY ONE**

Module (01) Safety & General Underpinning Knowledge

  - 1.1 Authorization and Competency of Mechanical Personnel
  - 1.1.1 Description of Work
  - 1.1.2 Role descriptions by competency level
  - 1.1.3 Facility Maintenance Technician Competency Profile
  - 1.2 Workshop Safety
  - 1.2.1 Safety in fabrication and installation works
  - 1.2.2 Safety in metal cutting, forming and machining
  - 1.2.3 Workplace Hazards
  - 1.3 Equipment and Execution of Work

Module (02) Hand and Power Tools

- 2.1 Safe working conditions & techniques
- 2.2 Safe use of Abrasive wheels on pedestal & angle grinders
- 2.3 Assembly Tools
- 2.4 Cutting Tools
- 2.5 Power Tools
- 2.5.1 Motorized or Power driven
- 2.5.2 Electric Drill
- 2.5.3 Portable Abrasive Wheel Tools
- 2.5.4 Pneumatic Tools
- 2.5.5 Hydraulic Power Tools
- 2.6 The Hazards of Hand Tools
- 2.7 The Dangers of Power Tools

• **02 DAY TWO**

Module (03) Measuring Tools

- 3.1 Rule
- 3.2 Square Angle
- 3.3 Angle Meter
- 3.4 Depth Gauge
- 3.5 Calipers
- 3.6 Drill & Standard Wire Gauges
- 3.7 Feeler Gauge
- 3.8 Screw Cutting Gauges
- 3.9 Screw Pitch Gauges
- 3.10 Micrometer
- 3.11 Vernier Caliper
- 3.12 Vernier Depth Gauge

Module (04) Maintenance Introduction

- 4.1 Maintenance objectives
- 4.2 Proper safety practice in work shop
- 4.3 Types of maintenance
- 4.3.1 Run to failure Maintenance

- 4.3.2 Preventive Maintenance
- 4.3.3 Predictive Maintenance
- 4.4 Advanced predictive maintenance techniques
- 4.4.1 Vibration Measurement and Analysis
- 4.4.2 Infra Thermo-Graphy Technique
- 4.4.3 Oil analysis technique
- 4.5 Maintenance Planning Technique
- 4.6 Measuring Tools Usage
- 4.7 Proper Maintenance Practice

• **03 DAY THREE**

Module (05) Compressors Operation and Maintenance

- 5.1 Compression Process Fundamentals
- 5.2 Compressors Types and Usage
- 5.3 Compressor Selection
- 5.4 Compressor Surge Phenomena and Control
- 5.5 Balancing Drum Function
- 5.6 Dry Gas Seal Fundamentals

Module (06) Shaft Alignment and Bearing Installation and Maintenance

- 6.1 Shaft Alignment Introduction
- 6.2 Shaft Alignment Techniques
- 6.3 Bearing Introduction
- 6.4 Bearing Types
- 6.5 Bearing Maintenance
- 6.6 Bearing Identification
- 6.7 Bearing Mantling and Dismantling
- 6.8 Proper Storage Way for Bearings

• **04 DAY FOUR**

Module (07) Gas Turbine Operation and Maintenance

- 7.1 Gas Turbine Operation Fundamentals
- 7.2 Gas turbine main components and its function

- 7.3 Turbine Auxiliary
- 7.3.1 Turbine Hydraulic System
- 7.3.2 Turbine Air Filter System
- 7.3.3 Turbine Fire Fighting System

Module (08) Valves Selection and Maintenance

- 8.1 Valves Function
- 8.2 Valves Type
- 8.3 Valves Selection
- 8.4 Proper Maintenance Practice for Valves

Module (09) Pumps Operation and Maintenance

- 9.1 pumps Function and Types
- 9.2 Pumps Classification
- 9.3 Pumps Selection
- 9.4 Pumps Mechanical Seal
- 9.5 Pumps Performance Control.

Module (10) Hydraulics & Pneumatics

- 10.1 Introduction to Pneumatics
- 10.2 Applications of pneumatics
- 10.3 Introduction to Hydraulic
- 10.4 Hydraulic Equipment

• **05 DAY FIVE**

Module (11) Heat Exchangers

- 11.1 Introduction to Heat transfer
- 11.2 Shell-and-Tube Heat Exchangers
- 11.3 Construction & Maintenance of Heat Exchangers

- 11.4 Maintenance of Heat Exchangers

Module (12) Pipes, Flanges & Pipe work

- 12.1 Flange identification & Rating – ANSI, GOST “Russian”
- 12.2 Pipe Material, ASTM standards, Wall thickness & rating
- 12.3 Pipe specifications & gasket identification
- 12.4 Weld ability of pipe material and preparation for welding
- 12.5 Bolt torqueing and thread lubricants (lubricants & coefficients of friction)
- 12.6 Bolt torqueing – Manual wrenches, calibration & hydraulic tools

Module (13) Rigging & Lifting techniques – general awareness for vertical, uncomplicated lifting

- 13.1 Introduction
- 13.2 Rigging Fundamentals and Safety
- 13.3 Rigging Components
- 13.4 Overhead Cranes

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 23, 2025	June 27, 2025	5 days	4950.00 $	Spain - Barcelona
Aug. 25, 2025	Aug. 29, 2025	5 days	4250.00 $	UAE - Dubai
Nov. 3, 2025	Nov. 7, 2025	5 days	4250.00 $	UAE - Abu Dhabi