

Course Overview:

This intermediate-level course provides participants with the essential knowledge and technical skills to maintain the efficiency and reliability of rotating equipment. In corporate environments where machinery uptime directly impacts productivity and operational cost, precise alignment and timely troubleshooting are vital. Participants will learn to identify and rectify misalignment and mechanical issues to minimize downtime and enhance equipment lifespan.

Course Objective:

- Understand operational principles and components of rotating equipment.
- Identify symptoms and causes of misalignment and mechanical failures.
- Apply industry-standard alignment techniques and vibration analysis.
- Develop structured troubleshooting approaches to diagnose faults.
- Improve equipment reliability through maintenance best practices.

Course Outline:

1. Fundamentals of Rotating Equipment
 - Types of rotating machinery: pumps, compressors, turbines, motors
 - Key components and their functions
 - Performance parameters and operational principles
2. Importance of Alignment in Rotating Equipment
 - Impact of misalignment on reliability and efficiency
 - Angular, parallel, and combined misalignment
 - Overview of alignment tools and methods
3. Alignment Techniques and Tools
 - Laser alignment techniques and procedures
 - Dial indicator methods
 - Addressing soft foot and thermal growth
4. Vibration Analysis for Alignment Issues
 - Introduction to vibration analysis
 - Detecting misalignment using vibration patterns
 - Monitoring tools and techniques
5. Troubleshooting Rotating Equipment
 - Common failure symptoms and causes
 - Step-by-step troubleshooting methodology
 - Case studies on failure resolution
6. Maintenance Strategies for Rotating Equipment
 - Preventive and predictive maintenance
 - Condition monitoring practices
 - Lubrication management
7. Sealing Devices for Pumps and Compressors
 - Types and operation of mechanical seals
 - Installation checks and geometrical verification
 - Seals for different pump and compressor types
8. Rotors and Shafts
 - Balancing principles and tolerances

Training Language:

EN / AR

Training Methodology:

The course combines various teaching methods, including instructor-led presentations, group discussions, case study analyses, and assessments through quizzes and a final exam to engage participants and ensure they understand and retain the material.

Venue | Date | Fees

Riyadh | 14-09-2025 | 17,250 SAR

- Shaft assembly impact on alignment

- Troubleshooting shaft-related issues

9. Advanced Alignment Challenges

- Aligning coupled vs. uncoupled machines

- Working in constrained environments

- High-speed equipment alignment considerations

10. Integrated Case Study and Final Assessment

- Application of learned concepts

- Group analysis and presentation

- Final knowledge check

Who Should Attend:

- Maintenance Engineers

- Mechanical Technicians

- Reliability Engineers

- Plant Supervisors