London TDM

Engineering and Technical Skills Training Courses

Course Venue: Malaysia - Kuala Lumpur

Course Date: From 21 June 2026 To 25 June 2026

Course Place: Royale Chullan Hotel

Course Fees: 6,000 USD

Introduction

This comprehensive 5-day professional course on Vibration Analysis and Condition Monitoring is designed to equip participants with the theoretical knowledge and practical skills necessary to implement effective monitoring strategies. This course is suitable for engineers, maintenance professionals, and technicians looking to enhance their ability to diagnose machine conditions and predict potential failures.

Objectives

- Understand the fundamental principles of vibration analysis.
- Learn the importance of condition monitoring in predictive maintenance.
- Acquire skills to utilize various data acquisition and analysis tools.
- Identify common machinery faults through vibration signatures.
- Develop strategies for implementing condition monitoring programs.

Course Outlines

Day 1: Introduction to Vibration Analysis

- Basic concepts and definitions of vibration.
- Types of vibrations and their causes.
- Advantages of vibration analysis in maintenance.
- The role of vibration in predictive maintenance strategies.
- Introduction to vibration measurement instruments.

Day 2: Data Acquisition and Signal Processing

- Overview of data acquisition systems.
- Sampling theory and its significance in vibration analysis.
- Signal processing techniques for vibration analysis.
- Understanding frequency and time-domain analysis.
- Hands-on session with data acquisition tools.

Day 3: Machinery Fault Diagnosis

- Common faults detectable through vibration analysis.
- Understanding vibration spectra and fault frequencies.
- Techniques for diagnosing imbalance and misalignment.
- Bearing fault diagnosis using vibration data.
- Case studies on machinery fault diagnosis.

Day 4: Advanced Vibration Analysis Techniques

- Introduction to modal analysis and its applications.
- Order tracking analysis for rotating machinery.
- Advanced signal processing techniques, including envelope analysis.
- Utilizing operational deflection shapes (ODS) for troubleshooting.
- Hands-on session with advanced analysis tools and software.

Day 5: Implementing Condition Monitoring Programs

- Developing an effective condition monitoring strategy.
- Integrating vibration analysis into maintenance planning.
- Economics of condition-based maintenance and return on investment.
- Reviewing standards and guidelines for vibration analysis.
- Workshop: Designing a condition monitoring program for your organization.