MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

DIAGNOSTIC SKILLS & VIBRATION ANALYSIS MONITORING

"Detect, Diagnose, and Prevent Equipment Failures Through Advanced Vibration Analysis"

Schedule

Date	Venue	Fees (Face-to-Face)
21 – 23 Apr 2026	Dubai, UAE	USD 2495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Maintenance and reliability are critical for ensuring operational continuity and minimizing downtime in industrial and manufacturing environments. Vibration analysis is a proven diagnostic tool that enables maintenance professionals to detect equipment issues early, prevent failures, and optimize asset performance.

This intensive 3-day training equips participants with practical skills in vibration monitoring and diagnostic techniques. The program focuses on identifying, analyzing, and interpreting vibration patterns to predict and prevent machinery failures, enhancing equipment reliability and operational efficiency.

Objectives

By the end of this course, participants will be able to:

- Understand the fundamentals of vibration and its impact on equipment performance
- Apply diagnostic skills to identify early signs of machinery defects
- Perform vibration data collection and analysis using standard tools and instruments
- Interpret vibration spectra for common faults in rotating and reciprocating equipment
- Develop effective monitoring and maintenance strategies
- Implement condition-based maintenance programs to reduce downtime
- Improve overall equipment reliability and lifecycle management

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Why Attend

- Learn practical vibration analysis and diagnostic techniques
- Reduce unexpected equipment failures and downtime
- Improve predictive maintenance and condition monitoring
- Enhance operational efficiency and asset reliability
- Gain hands-on experience with real-world examples and case studies
- Apply diagnostic insights to optimize maintenance strategies

Target Audience

This program is designed for:

- Maintenance engineers, technicians, and reliability professionals
- Mechanical, electrical, and instrumentation engineers
- Condition monitoring and predictive maintenance specialists
- Plant and operations managers
- Asset management and maintenance planners
- Professionals responsible for equipment performance and reliability

Individual Benefits

Key competencies that will be developed include:

- Vibration measurement and data collection skills
- Fault diagnosis in rotating and reciprocating machinery
- Condition monitoring techniques and predictive maintenance planning
- Root cause analysis and problem-solving skills
- Equipment performance assessment and improvement
- Confidence in implementing reliability-centered maintenance strategies

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced equipment downtime and unplanned maintenance costs
- Improved predictive maintenance capabilities
- Enhanced reliability and lifespan of critical assets
- Increased operational efficiency and productivity
- Better decision-making in maintenance planning and resource allocation
- A proactive, condition-based maintenance culture

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Core concepts of vibration monitoring, diagnostics, and maintenance strategies
- Case Studies – Real-world examples of vibration analysis and problem resolution
- Workshops – Hands-on exercises in vibration measurement, data collection, and fault analysis
- Peer Exchange – Group discussions on equipment challenges, best practices, and lessons learned
- Tools – Templates and checklists for vibration monitoring, fault diagnosis, and maintenance planning

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Course Outline

Detailed 3-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules Coffee Breaks: 09:30 & 11:15 Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of Vibration and Diagnostics

Module 1: Introduction to Vibration Analysis (07:30 – 09:30)

- Understanding vibration principles and types
- Importance of vibration analysis in maintenance

Module 2: Equipment and Measurement Tools (09:45 – 11:15)

- Sensors, data collectors, and measurement techniques
- Setting up vibration monitoring systems

Module 3: Signal Processing & Interpretation (11:30 – 01:00)

- Vibration signals and frequency analysis
- Identifying common patterns and anomalies

Module 4: Workshop – Basic Vibration Measurement (02:00 – 03:30)

Day 2: Fault Diagnosis in Rotating Machinery

Module 1: Common Faults & Failure Modes (07:30 – 09:30)

- Imbalance, misalignment, bearing defects, gear faults

Module 2: Vibration Signature Analysis (09:45 – 11:15)

- Spectral analysis and fault identification techniques

Module 3: Predictive Maintenance & Condition Monitoring (11:30 – 01:00)

- Implementing condition-based maintenance programs
- Planning maintenance based on vibration trends

Module 4: Workshop – Fault Diagnosis Exercises (02:00 – 03:30)

Day 3: Advanced Analysis and Reliability Implementation

Module 1: Advanced Vibration Monitoring Techniques (07:30 – 09:30)

- Multi-channel analysis, trending, and data integration

Module 2: Root Cause Analysis & Problem Solving (09:45 – 11:15)

- Identifying underlying causes of equipment issues

Module 3: Reliability-Centered Maintenance (11:30 – 01:00)

- Integrating vibration analysis into overall maintenance strategy

Module 4: Action Planning & Course Review (02:00 – 03:30)

- Developing practical implementation plans
- Key takeaways, Q&A, and discussion

Certification

Participants will receive a Certificate of Completion in Diagnostic Skills & Vibration Analysis Monitoring, validating their practical expertise in identifying, analyzing, and preventing equipment failures through advanced vibration monitoring techniques.

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Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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