MAWA EVENTS

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

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

VIBRATION ANALYSIS LEVEL II & III

""Advanced Techniques for Diagnosing, Trending, and Managing Machinery Health through Vibration Monitoring""

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

Vibration analysis is a cornerstone of predictive maintenance and machine condition monitoring. As operations become more reliant on rotating equipment, advanced vibration diagnostics are essential for preventing costly downtime, detecting early-stage faults, and extending asset life. This 3-day course combines Level II and Level III content to provide an intensive, expert-level program in vibration analysis techniques, diagnostics, and strategy implementation.

The course equips participants with the skills needed to interpret complex vibration signals, identify root causes, and recommend corrective actions. It also supports preparation for ISO 18436 Category II/III certification exams.

Objectives

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

- Analyze and diagnose vibration data for rotating and reciprocating machinery
- Identify faults such as misalignment, imbalance, looseness, resonance, and bearing defects
- Apply time waveform, spectrum, phase, and envelope analysis techniques
- Interpret severity charts and trend data to support maintenance planning
- Align vibration practices with ISO standards and certification requirements

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Why Attend

- Deepen your expertise in vibration analysis and machine diagnostics
- Learn advanced tools to prevent unexpected equipment failure
- Improve maintenance effectiveness and optimize asset health strategies
- Prepare for ISO Category II or III certification in vibration analysis
- Reduce costs and increase safety by identifying problems early

Target Audience

This program is designed for:

- Vibration analysts and condition monitoring technicians
- Predictive maintenance and reliability engineers
- Rotating equipment specialists and maintenance supervisors
- Mechanical and plant engineers working with heavy machinery
- Individuals preparing for ISO 18436 Category II or III certification

Individual Benefits

Key competencies that will be developed include:

- Interpretation of FFT spectrum and time waveform data
- Fault pattern recognition and failure mode diagnosis
- Phase and orbit analysis techniques for advanced diagnostics
- Vibration severity evaluation and reporting
- Root cause analysis (RCA) based on vibration trends

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Increased machinery uptime and reduced maintenance costs
- Early detection of defects that could lead to catastrophic failure
- Better alignment between reliability strategies and production goals
- Enhanced technical capability of maintenance and engineering teams
- Readiness for international vibration analysis certification audits

Instructional Methodology

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

- Strategy Briefings – ISO 18436 standards, fault diagnostics, and monitoring plans
- Case Studies – Vibration problems in pumps, motors, turbines, and gearboxes
- Workshops – Real waveform interpretation, spectrum analysis, and fault simulation
- Peer Exchange – Field experience, sensor application, and route development
- Tools – Templates for analysis reports, fault logs, and ISO certification preparation

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Course Outline

Training Hours: 07:30 AM – 03:30 PM Daily Format: 3–4 Learning Modules | Coffee Breaks: 09:30 & 11:15 | Lunch Break: 01:00 – 02:00

Day 1: Vibration Fundamentals and Fault Detection

- Module 1: Signal Acquisition and Vibration Basics (07:30 – 09:30) • Data collection techniques and sensor placement • Understanding time waveform and frequency spectrum
- Module 2: Common Machine Faults (09:45 – 11:15) • Imbalance, misalignment, mechanical looseness • Fault signature patterns and detection methods
- Module 3: Workshop – Spectrum Pattern Interpretation (11:30 – 01:00) • Analyze sample spectra for typical mechanical faults

Day 2: Advanced Analysis and Diagnostics

- Module 4: Resonance, Bearings, and Gear Faults (07:30 – 09:30) • Natural frequencies and resonance effects • Bearing defect frequencies and envelope analysis • Gear mesh issues and modulation
- Module 5: Phase and Orbit Analysis Techniques (09:45 – 11:15) • Understanding phase relationships and orbits • Advanced diagnostics and waveform matching
- Module 6: Workshop – Fault Simulation Case Study (11:30 – 01:00) • Simulate complex faults and recommend actions

Day 3: Strategic Application and Certification Readiness

- Module 7: Severity Assessment and Trending (07:30 – 09:30) • Interpreting ISO severity charts and alarm settings • Trending and historical analysis for root cause insights
- Module 8: Reporting and Reliability Integration (09:45 – 11:15) • Writing vibration reports and maintenance recommendations • Linking data with CMMS and reliability dashboards
- Module 9: Workshop – Mock Certification Assessment (11:30 – 01:00) • Practice quiz and diagnostic review aligned to ISO Level II/III

Certification

Participants will receive a Certificate of Completion in Vibration Analysis Level II & III, affirming their advanced skills in diagnostics, condition monitoring, and compliance with ISO 18436 vibration analysis standards.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**