MAWA EVENTS

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

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ROTATING MACHINERY VIBRATION

""Understanding and Mitigating Vibration in Rotating Machinery for Improved Performance and Reliability""

Schedule

Date	Venue	Fees (Face-to-Face)
03 – 05 Mar 2026	Manama, Bahrain	USD 2495 per delegate
03 – 05 Jun 2026	Dubai, UAE	USD 2495 per delegate
23 – 25 Jun 2026	Muscat, Oman	USD 2495 per delegate

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

Introduction

Vibration in rotating machinery can lead to significant operational challenges, including reduced efficiency, excessive wear, and even catastrophic failures. This 3-day course will provide participants with the knowledge and skills needed to understand, monitor, and mitigate vibration issues in rotating machinery. The course will cover vibration analysis techniques, causes of vibration, and strategies for minimizing its impact on machinery performance. By understanding the fundamentals of vibration and implementing the right diagnostic tools, participants can improve the reliability and lifespan of rotating machinery.

Objectives

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

- Understand the fundamentals of vibration in rotating machinery and its impact on performance
- Apply vibration analysis techniques to diagnose machinery issues
- Identify the common causes of vibration and how to mitigate them
- Implement preventive and corrective measures to reduce vibration-related failures
- Improve the overall reliability and efficiency of rotating machinery systems

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Why Attend

- Gain a thorough understanding of vibration principles in rotating machinery
- Learn practical techniques for vibration monitoring, measurement, and analysis
- Acquire skills to identify and prevent potential machinery failures caused by vibration
- Enhance machine reliability and extend the operational lifespan of rotating equipment
- Improve safety and reduce downtime by effectively managing vibration issues in your machinery

Target Audience

This program is designed for:

- Mechanical and maintenance engineers
- Reliability and vibration analysts
- Rotating equipment and machinery operators
- Maintenance supervisors and technicians
- Asset management professionals and plant operators

Individual Benefits

Key competencies that will be developed include:

- Advanced understanding of vibration principles and their impact on rotating machinery
- Skills in vibration analysis and diagnostic techniques
- Knowledge of tools and methodologies for measuring and analyzing vibration
- Ability to identify and resolve vibration-related issues in machinery systems
- Enhanced problem-solving skills in machinery reliability and performance

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved reliability and performance of rotating machinery through effective vibration management
- Reduced maintenance costs and downtime due to proactive vibration mitigation
- Enhanced ability to implement condition-based monitoring and predictive maintenance strategies
- A stronger focus on preventing catastrophic machinery failures and reducing unplanned stoppages
- Increased productivity and operational efficiency through optimized machinery performance

Instructional Methodology

- Lectures to introduce core concepts of vibration analysis and machinery monitoring
- Case studies to analyze real-world examples of vibration-related machinery failures
- Hands-on workshops to apply vibration measurement and diagnostic techniques
- Group discussions to share insights and solutions for managing vibration issues
- Practical exercises in using vibration analysis tools and interpreting measurement data

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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: Introduction to Vibration in Rotating Machinery

- Module 1: Fundamentals of Vibration (07:30 – 09:30) • Basic principles of vibration and its effects on machinery • Types of vibration (linear, torsional, and others) • The importance of vibration monitoring in rotating equipment
- Module 2: Vibration Measurement Techniques (09:45 – 11:15) • Overview of vibration measurement tools and sensors • Setting up vibration measurement systems • How to collect vibration data effectively
- Module 3: Workshop – Vibration Measurement Setup (11:30 – 01:00) • Hands-on experience in setting up and operating vibration measurement tools

Day 2: Vibration Analysis and Diagnosis

- Module 4: Vibration Frequency and Signal Analysis (07:30 – 09:30) • Understanding frequency spectra and vibration signals • Identifying common vibration frequencies and their causes • How to analyze vibration signals for fault detection
- Module 5: Identifying Causes of Vibration (09:45 – 11:15) • Common causes of vibration in rotating machinery (misalignment, imbalance, bearing faults) • Diagnosing machinery faults using vibration data • Case studies of machinery failure due to vibration
- Module 6: Workshop – Analyzing Vibration Data (11:30 – 01:00) • Participants will analyze vibration data from machinery to identify potential issues

Day 3: Vibration Mitigation and Machinery Optimization

- Module 7: Preventive and Corrective Measures for Vibration (07:30 – 09:30) • Vibration reduction techniques and solutions • Balancing and alignment methods to reduce vibration • Bearing maintenance and design improvements for vibration control
- Module 8: Implementing Condition Monitoring (09:45 – 11:15) • Overview of condition-based monitoring and predictive maintenance techniques • Using vibration analysis for ongoing machinery health monitoring • Developing a vibration management program
- Module 9: Workshop – Developing a Vibration Mitigation Plan (11:30 – 01:00) • Participants will develop a vibration mitigation strategy for a sample rotating machinery system

Certification

Upon successful completion of this course, participants will receive a Certificate of Completion in Rotating Machinery Vibration, demonstrating their ability to effectively measure, analyze, and mitigate vibration issues in rotating machinery systems.

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**

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