MAWA EVENTS

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

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OPERATION, DIAGNOSTICS AND MAINTENANCE OF EQUIPMENT FOR OIL AND GAS PRODUCTION

"Enhance Equipment Reliability, Optimize Performance, and Minimize Downtime in Oil and Gas Operations"

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

Introduction

Oil and gas production relies heavily on the smooth and efficient operation of complex equipment such as pumps, compressors, separators, valves, turbines, and control systems. The performance and reliability of this equipment directly impact production efficiency, operational safety, and cost-effectiveness. Effective maintenance and diagnostics are, therefore, crucial to ensure continuous and trouble-free production.

The Operation, Diagnostics and Maintenance of Equipment for Oil and Gas Production course provides participants with a deep understanding of the operating principles, performance characteristics, and maintenance requirements of production equipment. It focuses on identifying potential faults, diagnosing failures, and applying preventive and predictive maintenance techniques to enhance reliability and lifespan.

Through practical insights and case studies, participants will learn how to troubleshoot operational problems, optimize equipment efficiency, and align maintenance strategies with production goals — all while maintaining compliance with international safety and environmental standards.

Objectives

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

- Understand the working principles of key oil and gas production equipment.
- Identify common operational issues and equipment failure modes.
- Apply diagnostic techniques for fault detection and performance analysis.
- Implement preventive, predictive, and condition-based maintenance strategies.
- Optimize equipment performance for safe and continuous production.
- Develop effective maintenance planning and scheduling systems.
- Ensure compliance with safety, quality, and environmental regulations

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Why Attend

Operational efficiency and equipment reliability are vital to maintaining uninterrupted oil and gas production. This course equips participants with essential skills to ensure that critical assets operate safely and efficiently.

Attendees will gain the technical knowledge to recognize early warning signs of equipment malfunction, conduct root cause analysis, and take corrective measures before costly failures occur. The training bridges the gap between operations, maintenance, and reliability engineering, helping organizations achieve higher productivity and lower maintenance costs.

Target Audience

This course is designed for engineers, technicians, and managers responsible for oil and gas production equipment, including:

- Production and Operations Engineers
- Maintenance and Reliability Engineers
- Mechanical and Instrumentation Technicians
- Field Supervisors and Plant Operators
- Process and Facilities Engineers
- Maintenance Planners and Inspectors
- Asset Integrity and Equipment Engineers

Individual Benefits

- Gain in-depth technical understanding of oil and gas production equipment.
- Learn modern diagnostic and troubleshooting techniques.
- Improve your ability to prevent and manage equipment failures.
- Develop maintenance strategies that enhance equipment reliability.
- Increase your value as a skilled and proactive production professional.
- Strengthen your confidence in handling complex maintenance challenges.

Organizational Benefits

- Improve production reliability and reduce unplanned shutdowns.
- Optimize maintenance costs through predictive and preventive practices.
- Enhance safety and operational performance across assets.
- Extend the life of critical production equipment.
- Strengthen maintenance planning and decision-making processes.
- Build a culture of reliability and continuous improvement.

Instructional Methodology

This training program combines theoretical understanding with real-world applications. Participants will engage in interactive sessions designed to enhance learning and problem-solving skills through:

- Expert-led lectures and guided discussions
- Hands-on troubleshooting exercises
- Real-world case studies and failure analysis
- Diagnostic simulations and data interpretation
- Group problem-solving and scenario-based activities
- Multimedia demonstrations of production equipment in operation
- Continuous feedback and Q&A sessions

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Course Outline

Module 1: Overview of Oil and Gas Production Systems

- Introduction to production operations and process flow
- Classification of production equipment and systems
- Key performance indicators in production operations

Module 2: Equipment for Oil and Gas Production

- Pumps, compressors, and turbines
- Separators, heaters, and filters
- Valves, actuators, and control systems
- Artificial lift systems (ESP, gas lift, rod pumps)

Module 3: Equipment Operation and Performance Monitoring

- Operating parameters and efficiency optimization
- Process monitoring and control systems
- Data collection and interpretation for performance management

Module 4: Equipment Diagnostics and Troubleshooting

- Common failure modes and causes
- Vibration analysis, thermography, and ultrasonic testing
- Condition monitoring and predictive maintenance tools
- Fault detection and root cause analysis (RCA)

Module 5: Maintenance Strategies and Best Practices

- Preventive vs. corrective vs. predictive maintenance
- Maintenance planning and scheduling
- Reliability-centered maintenance (RCM)
- Spare parts management and inventory optimization

Module 6: Safety, Quality, and Environmental Considerations

- Safe work practices in maintenance and operation
- Equipment integrity and inspection programs
- Quality control in maintenance activities
- Environmental and sustainability standards

Module 7: Digitalization and Smart Maintenance

- Use of IoT and data analytics in equipment monitoring
- Predictive maintenance using AI and machine learning
- Digital twins and remote monitoring technologies
- Integration of SCADA and CMMS systems

Module 8: Case Studies and Practical Applications

- Real-world maintenance challenges and solutions
- Lessons learned from equipment failures
- Group analysis and problem-solving exercises

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Certification

Upon successful completion, participants will receive a Certificate in Operation, Diagnostics and Maintenance of Equipment for Oil and Gas Production, recognizing their competence in managing and maintaining production equipment efficiently and safely.

This certification demonstrates a strong understanding of equipment performance, diagnostics, and maintenance strategies — essential for ensuring reliable production, minimizing downtime, and achieving operational excellence in the oil and gas industry.

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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