MAWA EVENTS

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

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

FUNDAMENTALS OF BASIC INSTRUMENTS

"Building Core Instrumentation Skills for Accurate Measurement and Control in Oil & Gas Operations"

Schedule

Date	Venue	Fees (Online)
24 – 25 Aug 2026	Online	USD 700 per delegate

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

Introduction

Instrumentation is fundamental to ensuring safe, efficient, and reliable operations in oil and gas facilities. Accurate measurement, monitoring, and control of process variables are essential for operational safety and process optimization.

This intensive 2-day online training provides participants with a practical understanding of basic instruments used in oil and gas operations. The program covers principles of measurement, instrument types, calibration, troubleshooting, and application in industrial processes, enabling participants to build a strong foundation in instrumentation.

Objectives

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

- Understand the fundamentals of measurement and instrumentation in oil and gas operations
- Identify and operate common process instruments
- Calibrate and maintain basic instruments
- Troubleshoot instrumentation issues effectively
- Apply instrumentation knowledge to improve operational safety and reliability
- Enhance understanding of control systems and process monitoring

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Why Attend

- Develop core competencies in instrumentation for oil & gas operations
- Improve accuracy and reliability of process measurements
- Minimize operational risks associated with instrumentation failures
- Enhance troubleshooting and maintenance capabilities
- Support safe and efficient process control
- Gain practical knowledge applicable to day-to-day operations

Target Audience

This program is designed for:

- Instrumentation technicians and engineers
- Process engineers and operators
- Maintenance personnel responsible for instruments
- HSE and safety professionals in oil & gas facilities
- Project engineers and supervisors involved in instrumentation
- Professionals seeking foundational knowledge in industrial instrumentation

Individual Benefits

Key competencies that will be developed include:

- Understanding measurement principles and instrument types
- Operating and monitoring basic instruments effectively
- Calibration and maintenance of instrumentation
- Identifying and troubleshooting common instrumentation issues
- Applying instrumentation knowledge to process control and safety
- Enhancing professional competence in industrial operations

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved process reliability and safety through accurate instrumentation
- Reduced downtime and operational errors due to instrumentation issues
- Better maintenance and calibration practices
- Enhanced workforce competence in instrumentation management
- Compliance with operational and safety standards
- Strengthened decision-making in process control

Instructional Methodology

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

- Strategy Briefings – Overview of basic instrumentation principles and measurement techniques
- Case Studies – Examples from oil and gas operations highlighting instrumentation challenges
- Workshops – Practical exercises in instrument calibration, operation, and troubleshooting
- Peer Exchange – Group discussions on best practices and real-world challenges
- Tools – Templates, checklists, and practical exercises for instrumentation

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Course Outline

Detailed 2-Day Course Outline

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

Day 1: Fundamentals of Instrumentation

Module 1: Introduction to Industrial Instruments (07:30 – 09:30)

- Principles of measurement and control
- Types of instruments used in oil & gas operations

Module 2: Measurement Parameters and Devices (09:45 – 11:15)

- Pressure, temperature, flow, and level measurement
- Sensor and transducer fundamentals

Module 3: Instrument Operation and Safety (11:30 – 01:00)

- Operational best practices
- Safety considerations during instrumentation use

Module 4: Workshop – Instrument Identification & Handling (02:00 – 03:30)

- Hands-on exercises with sample instruments
- Practical applications in process control

Day 2: Calibration, Maintenance, and Troubleshooting

Module 1: Instrument Calibration Principles (07:30 – 09:30)

- Calibration procedures and standards
- Ensuring accuracy and reliability

Module 2: Troubleshooting Techniques (09:45 – 11:15)

- Identifying common instrument issues
- Corrective actions and preventive maintenance

Module 3: Integration with Process Control Systems (11:30 – 01:00)

- Linking instruments to control systems
- Monitoring and reporting process data

Module 4: Workshop – Calibration & Troubleshooting Exercises (02:00 – 03:30)

- Practical calibration exercises
- Scenario-based troubleshooting and solutions

Certification

Participants will receive a Certificate of Completion in Fundamentals of Basic Instruments, validating their foundational knowledge and practical skills in operating, calibrating, and troubleshooting industrial instruments in oil and gas operations.

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.

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