MAWA EVENTS

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

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PROCESS CONTROL AND INSTRUMENTATION FOR INDUSTRIAL PLANTS

"Enhance Industrial Efficiency Through Advanced Process Control and Instrumentation"

Schedule

Date	Venue	Fees (Face-to-Face)
12 – 14 Jul 2026	Riyadh, KSA	USD 2495 per delegate

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

Introduction

Efficient process control and precise instrumentation are the backbone of modern industrial plants. This 3-day intensive training equips participants with practical knowledge and hands-on skills required to design, implement, and optimize process control systems. Attendees will gain insights into advanced instrumentation techniques, control strategies, and monitoring systems that improve operational efficiency, safety, and reliability.

Through interactive lectures, case studies, and practical workshops, participants will understand how to select and configure control instruments, troubleshoot process systems, and apply best practices in instrumentation. This course is ideal for professionals seeking to enhance their technical expertise and contribute to the smooth operation of industrial plants.

Objectives

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

- Understand the fundamentals of process control and industrial instrumentation
- Select, calibrate, and configure process instruments for various applications
- Design and implement effective control loops and strategies
- Troubleshoot instrumentation and control system issues efficiently
- Optimize plant performance using advanced control techniques
- Apply safety and regulatory standards in process control systems

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Why Attend

- Gain practical knowledge of process control systems and instrumentation
- Learn to enhance plant efficiency and reduce operational downtime
- Acquire troubleshooting skills for control and instrumentation systems
- Understand the latest techniques in process monitoring and optimization
- Improve operational safety and compliance with industry standards
- Network with industry professionals and share best practices

Target Audience

This program is designed for:

- Process control, instrumentation, and electrical engineers
- Maintenance and operations personnel in industrial plants
- Technicians responsible for instrumentation and control systems
- Project engineers involved in plant automation and control
- Professionals seeking to upgrade their skills in process control and instrumentation

Individual Benefits

Key competencies that will be developed include:

- Ability to design, implement, and optimize control loops
- Skills in selecting, calibrating, and troubleshooting instrumentation
- Knowledge of process monitoring and data acquisition techniques
- Understanding of safety standards and regulatory requirements
- Enhanced problem-solving skills in process control environments
- Increased technical proficiency for career growth in industrial automation

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved efficiency and reliability of industrial plant operations
- Reduced downtime and operational costs through optimized control systems
- Enhanced safety and compliance with instrumentation standards
- Better monitoring, reporting, and analysis of process performance
- Increased technical capability within the engineering and operations team
- Optimized resource allocation and productivity in plant operations

Instructional Methodology

The course follows a blended learning approach combining theory with practical exercises:

- Strategy Briefings – Overview of process control systems, instrumentation principles, and control strategies
- Case Studies – Real-world examples of process control and instrumentation applications
- Workshops – Hands-on exercises in calibration, control loop design, and troubleshooting
- Peer Exchange – Group discussions on operational challenges and best practices
- Tools – Templates and practical guides for process monitoring and control system optimization

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Course Outline

Detailed 3-Day Course Outline

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

Day 1: Fundamentals of Process Control

Module 1: Introduction to Process Control (07:30 – 09:30)

- Principles of process control in industrial plants
- Types of control systems and loops

Module 2: Instrumentation Basics (09:45 – 11:15)

- Sensors, transmitters, and actuators
- Signal transmission and instrumentation standards

Module 3: Control System Design (11:30 – 01:00)

- Open-loop and closed-loop control systems
- PID controllers and tuning methods

Module 4: Case Study and Discussion (02:00 – 03:30)

- Analysis of process control scenarios in industrial plants

Day 2: Advanced Instrumentation and Control Strategies

Module 1: Process Measurement Techniques (07:30 – 09:30)

- Flow, pressure, temperature, and level measurement techniques

Module 2: Advanced Control Strategies (09:45 – 11:15)

- Cascade, feedforward, and ratio control
- Multivariable and predictive control concepts

Module 3: Calibration and Troubleshooting (11:30 – 01:00)

- Instrument calibration methods
- Diagnosing and resolving control system issues

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

- Hands-on practice with instrumentation and control loops

Day 3: Process Optimization and Safety

Module 1: Monitoring and Data Acquisition (07:30 – 09:30)

- SCADA and DCS integration for process monitoring
- Data logging and performance analysis

Module 2: Process Optimization Techniques (09:45 – 11:15)

- Techniques to enhance efficiency and reduce waste
- Case studies on performance improvement

Module 3: Safety and Regulatory Compliance (11:30 – 01:00)

- Industry standards for instrumentation and process control
- Risk assessment and safety management

Module 4: Capstone Workshop and Review (02:00 – 03:30)

- Applying knowledge to real-world process scenarios
- Q&A and discussion of lessons learned

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Certification

Participants will receive a Certificate of Completion in Process Control and Instrumentation for Industrial Plants, validating their expertise in industrial process control, instrumentation, and optimization of plant 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.

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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