

ANALYZERS MANAGEMENT

"Maximize Performance, Accuracy, and Uptime of Process Analyzers"

Schedule

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

► **Available delivery methods:** In-House Training

Introduction

Analyzers are essential in modern industrial processes for real-time monitoring and control of chemical compositions. The Analyzers Management course equips instrumentation engineers, maintenance teams, and plant operators with the essential skills to manage, maintain, and optimize analytical systems such as gas chromatographs, spectrometers, and process gas/liquid analyzers. Participants will gain insights into lifecycle management, troubleshooting, calibration techniques, and reliability strategies to enhance analyzer availability and compliance with safety and quality standards.

Objectives

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

- Understand the function and applications of different types of process analyzers
- Apply best practices in installation, calibration, validation, and commissioning
- Develop preventive and predictive maintenance strategies
- Troubleshoot analyzer malfunctions and signal quality issues
- Integrate analyzers into process automation and control systems
- Manage spare parts, documentation, and analyzer system lifecycles

Why Attend

- Reduce analyzer downtime and improve reliability
- Ensure accurate and compliant process measurements
- Learn to manage analyzer performance from procurement to replacement
- Improve plant efficiency, safety, and environmental monitoring

Target Audience

- Instrumentation & Control Engineers
- Analyzer Technicians
- Process Engineers
- Maintenance Supervisors
- Automation and QA/QC Personnel

Individual Benefits

- Improve technical expertise in industrial analyzers
- Enhance career prospects in reliability, instrumentation, and QA fields
- Gain practical skills for optimizing analytical performance

Organizational Benefits

- Increased plant efficiency and safety through reliable data
- Lower maintenance costs and analyzer failures
- Enhanced quality control and compliance with standards (e.g., API, EPA)

Instructional Methodology

- Real-world case studies from oil & gas, petrochemical, and pharmaceutical sectors
- Live demonstrations (videos or virtual tools) of analyzer diagnostics
- Group troubleshooting workshops and system walkthroughs
- Templates for analyzer lifecycle and maintenance planning

Course Outline

DETAILED 5-DAY COURSE OUTLINE (CUSTOMIZABLE)

Day 1: Fundamentals of Process Analyzers

- Module 1: Introduction to Online Analytical Instrumentation (07:30 – 09:30)
- Module 2: Types of Analyzers: Gas, Liquid, Infrared, UV, and Chromatography (09:45 – 11:15)
- Module 3: Analyzer Systems Architecture & Integration (11:30 – 01:00)
- Module 4: Site Requirements & Sample Conditioning Systems (02:00 – 03:30)

Day 2: Installation, Calibration & Validation

- Module 1: Best Practices for Analyzer Installation (07:30 – 09:30)
- Module 2: Calibration Techniques: Manual, Auto, and Remote (09:45 – 11:15)
- Module 3: Validation Methods and Documentation (11:30 – 01:00)
- Module 4: Case Study: Commissioning Challenges and Solutions (02:00 – 03:30)

Day 3: Maintenance, Troubleshooting & Optimization

- Module 1: Preventive and Predictive Maintenance Routines (07:30 – 09:30)
- Module 2: Troubleshooting Common Analyzer Problems (09:45 – 11:15)
- Module 3: Signal Quality, Drift, and Analyzer Failure Analysis (11:30 – 01:00)
- Module 4: Hands-On Case Simulation: Diagnosing Analyzer Faults (02:00 – 03:30)

Day 4: Advanced Monitoring & Automation Integration

- Module 1: Integrating Analyzers into DCS/SCADA/PLC Systems (07:30 – 09:30)
- Module 2: Remote Monitoring & Data Interpretation (09:45 – 11:15)
- Module 3: Use of Digital Twins & Smart Analytics for Analyzers (11:30 – 01:00)
- Module 4: Performance Audits & Root Cause Analysis (02:00 – 03:30)

Day 5: Lifecycle Management & Best Practices

- Module 1: Analyzer Asset Lifecycle Planning (07:30 – 09:30)
- Module 2: Spare Parts Management & Documentation Control (09:45 – 11:15)
- Module 3: Regulatory Compliance & Safety Standards (11:30 – 01:00)
- Module 4: Group Presentations & Workshop Wrap-up (02:00 – 03:30)

Certification

Upon successful completion, participants will receive a Certificate in Analyzers Management, aligned with international standards in industrial instrumentation and control systems.

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- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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In-House / Customized Training

Interested in running this course for your team?

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