QUEST
Professional Center

PROFESSIONAL TRAINING COURSE

Course No. 1160

Advanced Process Control Training Course

INSTRUMENTATION & CONTROL
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION
5 Days

DELIVERY
Classroom

LOCATION
Vienna, Austria

DATES
7 – 11 Dec 2026

Scheduled Event Details

CITY	Vienna, Austria
DATE	7 – 11 Dec 2026
DELIVERY TYPE	Classroom
COURSE FEE	€6,400

Course Overview

The Advanced Process Control Training Course is a comprehensive professional development program designed to equip engineers, technical specialists, and industrial professionals with advanced knowledge and practical skills in modern process control strategies used to optimize industrial operations. As industries continue to pursue higher productivity, greater operational stability, improved product quality, and enhanced energy efficiency, Advanced Process Control (APC) has become a critical technology for achieving operational excellence across complex industrial processes.

This course provides an in-depth understanding of advanced control methodologies, dynamic process behavior, multivariable control, predictive control techniques, process optimization, controller performance monitoring, and real-time operational improvement. Participants will explore how advanced process control systems improve process stability, reduce operational variability, increase production capacity, minimize energy consumption, and support informed operational decision-making within highly automated industrial environments.

Organizations operating in oil and gas, petrochemicals, refineries, chemical processing, power generation, mining, manufacturing, pharmaceuticals, food processing, and other process industries rely on Advanced Process Control to maximize asset utilization, improve production efficiency, reduce operational risks, and maintain consistent product quality. This Advanced Process Control Training Course enables participants to understand, implement, evaluate, and optimize advanced control applications that deliver measurable improvements in operational performance.

Through a combination of engineering principles, industrial case studies, practical exercises, and performance improvement methodologies, this course prepares participants to design, evaluate, troubleshoot, and optimize advanced process control systems. By the end of the program, participants will possess the technical competence to contribute effectively to automation initiatives,

process optimization projects, digital transformation programs, and continuous operational improvement within their organizations.

Objectives

- Analyze advanced process control principles and their application in complex industrial operations throughout the course.
- Develop advanced control strategies that improve process stability, efficiency, and production performance.
- Evaluate process dynamics and identify opportunities for control system optimization.
- Apply multivariable and predictive control techniques to industrial process applications.
- Design advanced control solutions that enhance operational reliability and product quality.
- Improve controller tuning and performance monitoring to reduce process variability.
- Strengthen troubleshooting capabilities for diagnosing advanced process control performance issues.
- Implement advanced optimization strategies that improve production efficiency and energy utilization.
- Assess operational performance using process data, key performance indicators, and control system diagnostics.
- Align advanced process control initiatives with organizational objectives related to operational excellence, sustainability, and continuous improvement.

Who Should Attend

This Advanced Process Control Training Course is designed for control engineers, automation engineers, process engineers, instrumentation engineers, chemical engineers, production engineers, operations engineers, maintenance engineers, systems engineers, commissioning engineers, reliability engineers, project engineers, and industrial automation specialists responsible for designing, operating, maintaining, or improving industrial process control systems.

The course is also suitable for engineering managers, production managers, operations managers, maintenance managers, plant managers, process optimization specialists, technical supervisors, digital transformation leaders, industrial consultants, and decision makers responsible for maximizing operational efficiency, improving process reliability, reducing production costs, and

implementing advanced automation technologies.

Professionals working within government entities, ministries, public sector organizations, oil and gas companies, refineries, petrochemical facilities, chemical plants, power generation stations, manufacturing organizations, mining operations, pharmaceutical manufacturers, food processing companies, engineering contractors, and large industrial enterprises will gain practical expertise that supports sustainable production, intelligent automation, operational excellence, and long-term business performance.

Learning Outcomes

- By the end of this Advanced Process Control Training Course, participants will be able to:
- Explain the principles and operational benefits of advanced process control technologies.
- Evaluate process dynamics and identify performance improvement opportunities.
- Design advanced control strategies for complex industrial processes.
- Apply predictive and multivariable control techniques to optimize production systems.
- Improve controller tuning to enhance process stability and operational consistency.
- Diagnose control system performance issues using structured analytical methods.
- Analyze operational data to support process optimization and informed decision-making.
- Implement advanced monitoring techniques that improve production efficiency and equipment utilization.
- Apply industry best practices for maintaining reliable and sustainable process control systems.
- Develop practical implementation plans for improving advanced process control performance across industrial facilities.

Course Outline

DAY 01

Fundamentals of Advanced Process Control

- Introduction to advanced process control concepts and industrial applications
- Process dynamics, control objectives, and operational performance
- Review of conventional control strategies and their limitations

DAY 01 — CONTINUED

- Principles of advanced control methodologies

PRACTICAL APPLICATION

Evaluating process behavior and identifying control improvement opportunities

DAY 02

Advanced Control Strategies and Process Optimization

- Multivariable process control concepts
- Predictive control methodologies and industrial applications
- Process optimization techniques for continuous operations
- Controller performance assessment and optimization

PRACTICAL APPLICATION

Developing advanced control strategies for industrial processes

DAY 03

Performance Monitoring and Troubleshooting

- Process performance indicators and operational analytics
- Controller tuning techniques for advanced control applications
- Diagnosing process instability and control system performance issues
- Corrective actions for improving operational consistency

PRACTICAL APPLICATION

Troubleshooting advanced process control scenarios using industrial case studies

DAY 04

Integration, Reliability, and Operational Excellence

- Integration of advanced process control with automation systems
- Data acquisition, process monitoring, and operational decision support

DAY 04 — CONTINUED

- Reliability improvement through advanced control applications
- Operational risk reduction and process safety considerations

PRACTICAL APPLICATION

Integrating advanced control strategies into industrial operations

DAY 05

Continuous Improvement and Industrial Implementation

- Advanced performance optimization methodologies
- Best practices for lifecycle management of advanced control systems
- Digital transformation and future trends in process control
- Developing sustainable operational improvement strategies

FINAL WORKSHOP

Design, evaluate, optimize, and present a comprehensive Advanced Process Control implementation plan that enhances process stability, production efficiency, operational reliability, energy performance, and long-term organizational excellence.

Register or Request More Information

Course page: https://quest-training.com/courses/advanced-process-control-training-course
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