



# Advanced Water Treatment Process Control Training Course

24 – 28 May 2027  
Madrid

## Advanced Water Treatment Process Control Training Course

**Ref:** 1408\_203954 **Date:** 24 – 28 May 2027 **Location:** Madrid **Fees:** 5700 Euro

### Overview

Advanced Water Treatment Process Control Training Course is a one-week course for utility, operations, laboratory, maintenance, environmental, and engineering functions who leave with a Water Treatment Process Control and Verification Dossier. Participants connect source-water characterization, treatment-train selection, coagulation, clarification, filtration, disinfection, residuals, instrumentation, troubleshooting, safety, and performance verification. Agile Leaders Training Center presents water treatment process control as an evidence-based operating discipline.

### Who Should Attend

- Utility functions responsible for treatment performance and service continuity
- Operations functions controlling chemical dosing, clarification, filtration, and disinfection
- Laboratory functions producing source-water and process-monitoring evidence
- Maintenance functions sustaining chemical feed, instrumentation, filters, and residuals equipment
- Engineering functions evaluating treatment trains and improvement options
- Environmental and quality functions reviewing risks, controls, records, and verification

The course assumes participants already support water-treatment operations, laboratory testing, maintenance, engineering, environmental control, or quality assurance and leaves out introductory chemistry, detailed civil design, and predetermined water-quality or operating results.

### Departments and Industries

The course supports departments and industries that treat source water for utility, industrial, commercial, or institutional use.

- Municipal and private water utilities
- Food, beverage, pharmaceutical, and healthcare operations
- Manufacturing, power, mining, and process industries
- Water operations, laboratory, and quality departments
- Mechanical, electrical, instrumentation, and maintenance teams
- Engineering, environment, safety, and technical-services functions

### Learning Objectives

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



- Analyze source-water risks and treatment requirements
- Compare conventional and advanced treatment-train options
- Apply coagulation, clarification, filtration, and disinfection controls
- Diagnose process deviations using operating and laboratory evidence
- Evaluate residuals, safety, instrumentation, and maintenance constraints
- Build a performance verification and improvement plan

## **Course Agenda**

### **Day 1: Source Water and Treatment Barriers**

- Source-Water Characterization Profile
- Hazard and Treatment Barrier Map
- Treatment-Train Selection Matrix
- Sampling Point and Data Quality Plan
- Baseline Performance and Uncertainty Register

### **Day 2: Coagulation and Clarification Control**

- Coagulation Chemistry and Dose Control Model
- Jar-Test Design and Interpretation Method
- Flocculation Energy and Contact-Time Review
- Clarifier Loading and Settling Performance Sheet
- Chemical Feed Safety and Control Checklist

### **Day 3: Filtration and Disinfection Control**

- Filter Loading and Head-Loss Trend Chart
- Backwash Trigger and Recovery Protocol
- Disinfection Contact and Residual Control Worksheet
- Activated Carbon Treatment Option Screen
- Membrane Treatment Applicability Matrix

### **Day 4: Monitoring and Plant Reliability**

- Online Instrument Validation Schedule
- Process Alarm and Response Matrix
- Treatment Residuals Management Plan
- Equipment Criticality and Maintenance Map
- Performance Indicator and Evidence Dictionary



## **Day 5: Water Treatment Control Practice**

- Exercise: Reconcile a Source-Water Risk Profile
- Exercise: Diagnose a Coagulation and Clarification Deviation
- Exercise: Evaluate Filtration and Disinfection Trends
- Exercise: Prioritize a Treatment Improvement Case
- Capstone Exercise: Water Treatment Process Control and Verification Dossier

## **Practical Exercises**

The course uses suggested activities drawn from utility, food-processing, manufacturing, and institutional treatment settings.

- Suggested activity: connect source-water characteristics, hazards, operating constraints, treatment barriers, sampling points, and data-quality notes within a defined system boundary.
- Suggested activity: interpret jar-test, clarification, filter, and disinfectant-residual evidence to diagnose linked process deviations.
- Suggested activity: compare activated carbon and membrane options against contaminant, operating, residuals, maintenance, safety, and monitoring criteria.
- Suggested activity: assemble baseline, control, troubleshooting, reliability, verification, and improvement artifacts in the capstone dossier.

## **FAQs**

### **Who suits advanced water treatment process control training, and what does it assume?**

Advanced water treatment process control training suits experienced utility, operations, laboratory, maintenance, environmental, quality, and engineering personnel who already support treatment decisions or plant performance.

### **How does water treatment process control training differ from introductory water-treatment training?**

Water treatment process control training emphasizes linked operating evidence, dose control, barrier performance, diagnostics, reliability, and verification rather than basic descriptions of treatment stages.

### **How is a jar test used in water treatment process control?**

A jar test compares coagulation conditions under controlled mixing, dose, pH, and settling arrangements so operators can interpret floc formation and support dosing decisions alongside plant evidence.



## **What evidence supports water-treatment troubleshooting?**

Water-treatment troubleshooting uses source-water results, chemical doses, flows, levels, turbidity trends, head loss, residual measurements, alarms, maintenance condition, sampling quality, and operating changes.

## **How should water treatment performance be verified?**

Water treatment performance should be verified against defined baselines, barrier objectives, consistent sampling and calculation methods, validated instruments, assigned evidence owners, and documented response actions.

## **Conclusion**

The course connects source-water risks, treatment barriers, process controls, instrumentation, residuals, maintenance, safety, troubleshooting, and verification. Participants take back a Water Treatment Process Control and Verification Dossier containing operating and improvement tools. The dossier helps teams interpret evidence, prioritize responses, document uncertainty, and govern treatment-performance decisions.