MERCURY

Advanced Water Treatment Training Course

21 March – 1 April 2027
Cairo (Egypt)



Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
Amman - Jordan: +962 79 712 3347

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Advanced Water Treatment Training Course

Ref: 15729_322628 **Date:** 21 March – 1 April 2027 **Location:** Cairo (Egypt) **Fees:** 6500 Euro

Introduction:

This Advanced Water Treatment training course is designed for professionals seeking to deepen their expertise in advanced techniques and technologies for water treatment. In today's world, managing water quality is crucial for environmental sustainability, public health, and industrial efficiency. This course provides an overview of cutting-edge methods and systems used to treat and purify water, addressing conventional and emerging challenges.

In the Advanced Water Treatment training course, participants will explore advanced filtration technologies, chemical treatment processes, membrane technologies, and innovative contaminant solutions. Emphasis will be placed on practical applications, problem-solving strategies, and the latest advancements in the field. They will have the skills and knowledge to implement effective water treatment strategies and drive improvements in water quality management.

The Advanced Water Treatment training course enhances participants' advanced water treatment methods, processes, and technologies. It covers various advanced water treatment systems, including the latest water treatment solutions for municipal and industrial applications. Attendees will learn the advanced water treatment techniques used in modern water treatment plants and gain insights into critical processes such as filtration, desalination, and disinfection.

The course offers Advanced Water Treatment certification, equipping professionals to apply advanced water treatment technologies in various sectors, including well-drilling operations. Participants can optimize advanced water treatment processes and implement effective solutions by exploring the definition of advanced water treatment and its role in addressing complex water challenges.

Targeted Groups:

- Water Treatment Professionals.
- Environmental Engineers.
- Municipal Water Facility Operators.
- Industrial Water Management Teams.
- Research Scientists in Water Quality.
- Water Resource Managers.
- Environmental Consultants.
- Regulatory Compliance Officers.

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Course Objectives:

At the end of this Advanced Water Treatment course, the participants will be able to:

- Gain in-depth knowledge of advanced water treatment technologies.
- Learn to apply cutting-edge filtration and chemical treatment methods.
- Understand and implement membrane technology solutions.
- Develop skills in contaminant analysis and removal techniques.
- Optimize water treatment systems for efficiency and effectiveness.
- Ensure compliance with regulatory standards in water treatment.
- Enhance troubleshooting and maintenance practices for treatment systems.
- Stay updated with the latest advancements and innovations in water treatment.

Targeted Competencies:

By the end of this Advanced Water Treatment training, the participant's competencies will:

- Advanced Filtration Techniques.
- Chemical Water Treatment Processes.
- Membrane Technology Applications.
- Contaminant Removal Strategies.
- Water Quality Monitoring and Analysis.
- Regulatory Compliance in Water Treatment.
- System Design and Optimization.
- Troubleshooting and Maintenance Skills.

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Course Content:

Unit 1: Introduction to Advanced Water Treatment Technologies:

- Overview of water treatment processes.
- Importance of advanced treatment methods.
- Key advancements in water treatment technology.
- Historical development and future trends.

Unit 2: Advanced Filtration Techniques:

- Principles of advanced filtration methods.
- Types of filtration systems: granular, membrane, and more.
- Design and operation of filtration units.
- Case studies of successful filtration implementations.
- Troubleshooting common filtration issues.

Unit 3: Chemical Treatment Processes:

- Introduction to chemical treatment technologies.
- Types of chemicals used in water treatment.
- Dosage and application methods.
- Reaction kinetics and efficiency.
- Handling and safety procedures for chemicals.

Unit 4: Membrane Technologies:

- Principles of membrane filtration.
- Types of membranes: reverse osmosis, ultrafiltration, etc.
- Membrane fouling and cleaning techniques.
- Design and maintenance of membrane systems.
- Applications in various industries.

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Unit 5: Contaminant Removal Strategies:

- Identification of common water contaminants.
- Methods for removing organic and inorganic contaminants.
- Use of adsorption, oxidation, and other techniques.
- Monitoring and measuring effectiveness.
- Case studies on successful contaminant removal.

Unit 6: Water Quality Monitoring and Analysis:

- Importance of water quality monitoring.
- Techniques for sampling and analysis.
- Interpretation of water quality data.
- Tools and instruments used for monitoring.
- Ensuring data accuracy and reliability.

Unit 7: Regulatory Compliance in Water Treatment:

- Overview of water treatment regulations.
- Standards and guidelines for compliance.
- Documentation and reporting requirements.
- Navigating regulatory audits and inspections.
- Best practices for maintaining compliance.

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Unit 8: System Design and Optimization:

- Principles of designing water treatment systems.
- Optimization techniques for system efficiency.
- Integration of various treatment technologies.
- Energy and cost considerations.
- Simulation and modeling of treatment systems.

Unit 9: Troubleshooting and Maintenance:

- Common issues in advanced water treatment systems.
- Diagnostic techniques and problem-solving.
- Routine maintenance practices.
- Preventive maintenance strategies.
- Case studies of troubleshooting challenges.

Unit 10: Innovations and Future Trends:

- Emerging technologies in water treatment.
- Research and development in advanced treatments.
- Impact of technological advancements on the industry.
- Future challenges and opportunities.
- Preparing for the next generation of water treatment solutions.