

EXPLORING DESALINATION TREATMENT PROCESSES

“Master Desalination Technologies and Water Treatment Best Practices”

Schedule

Date	Venue	Fees (Online)
11 - 12 May 2026	Online	USD 700 per delegate

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

Introduction

Water scarcity and the growing demand for fresh water have made desalination technologies critical for industrial, municipal, and commercial applications. This intensive 2-day online training provides participants with a comprehensive understanding of desalination processes, treatment technologies, and operational best practices.

The course covers reverse osmosis, thermal desalination, pre-treatment and post-treatment processes, water quality management, and process optimization. Through interactive discussions, case studies, and practical exercises, participants will gain insights into designing, operating, and maintaining efficient desalination plants while ensuring water quality and operational reliability.

Objectives

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

- Understand key desalination technologies and treatment processes
- Identify appropriate pre-treatment and post-treatment solutions
- Optimize desalination operations for efficiency and reliability
- Manage water quality and chemical dosing effectively
- Apply best practices for plant operation, monitoring, and maintenance
- Mitigate operational risks and ensure compliance with water standards

Why Attend

- Gain practical knowledge of desalination technologies and treatment processes
- Enhance operational efficiency and reliability of desalination plants
- Improve water quality management and compliance with standards
- Learn strategies for process optimization and risk mitigation
- Develop skills to troubleshoot and maintain desalination systems

Target Audience

This program is designed for:

- Water treatment and desalination engineers
- Plant operators and supervisors
- Environmental and process engineers
- Maintenance and technical personnel involved in water management
- Professionals responsible for water quality monitoring and operational efficiency

Individual Benefits

Key competencies that will be developed include:

- Knowledge of desalination processes and technologies
- Skills in pre-treatment, post-treatment, and water quality management
- Competence in process optimization and operational best practices
- Ability to troubleshoot and maintain desalination plants
- Improved decision-making in water treatment operations
- Enhanced professional capability in desalination and water management

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved operational efficiency and reliability of desalination plants
- Effective water quality monitoring and management
- Optimized treatment processes to reduce costs and risks
- Strengthened compliance with environmental and water standards
- Increased organizational capability in managing water resources
- Enhanced sustainability and operational performance

Instructional Methodology

The course follows a blended virtual learning approach combining theory with practice:

- Strategy Briefings - Desalination technologies, treatment processes, and operational principles
- Case Studies - Real-world examples of desalination plant operations and optimization
- Workshops - Hands-on exercises on pre-treatment, post-treatment, and process monitoring
- Peer Exchange - Group discussions on operational challenges and best practices
- Tools - Process flow templates, monitoring guides, and operational checklists

Course Outline

Detailed 2-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Breaks included | Lunch Break: 01:00 – 02:00

Day 1: Fundamentals of Desalination

Module 1: Overview of Desalination Processes (07:30 – 09:30)

- Thermal and membrane-based desalination technologies
- Key operational principles and applications

Module 2: Pre-Treatment Processes (09:45 – 11:15)

- Screening, filtration, and chemical dosing
- Strategies for preventing fouling and scaling

Module 3: Water Quality Management (11:30 – 01:00)

- Monitoring parameters and quality standards
- Mitigation of operational risks

Day 2: Optimization and Operational Excellence

Module 4: Post-Treatment and Distribution (07:30 – 09:30)

- Mineralization, pH adjustment, and disinfection
- Ensuring water quality for intended use

Module 5: Process Optimization Techniques (09:45 – 11:15)

- Efficiency improvement strategies
- Energy and cost reduction methods

Module 6: Case Studies and Action Planning (11:30 – 01:00)

- Real-world operational scenarios
- Group exercises and implementation strategies

Certification

Participants will receive a Certificate of Completion in Exploring Desalination Treatment Processes, validating their knowledge of desalination technologies, operational best practices, water quality management, and process optimization for reliable and efficient water treatment operations.

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