Water Resource Management for Industries Training Course

Professional Development Training Course Outline

Category	General Training	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Water is a critical yet increasingly scarce industrial resource, making Water Resource Management (WRM) a strategic priority for sustainable industrial growth. Water Resource Management for Industries Training Course is designed to equip professionals with advanced knowledge and practical skills in industrial water efficiency, wastewater treatment, circular water economy, ESG compliance, and smart water technologies. With rising global concerns around climate change, water scarcity, and regulatory pressure, industries must adopt innovative water stewardship practices to reduce costs, improve sustainability performance, and ensure long-term operational resilience.

This program integrates modern water conservation strategies, ISO 14046 water footprint assessment, zero liquid discharge (ZLD) systems, and AI-driven water monitoring tools to help organizations transform their water usage models. Participants will learn how to implement data-driven water auditing, recycling systems, sustainable process optimization, and compliance with environmental regulations. The course is ideal for industries aiming to achieve net-zero water goals, ESG reporting excellence, and sustainable industrial transformation.

Programme Curriculum

Water Resource Management for Industries Training Course

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Course Duration

5 days

Course Objectives

1. Understand industrial water footprint assessment & ISO 14046 standards
2. Implement water efficiency optimization in manufacturing systems
3. Apply wastewater treatment technologies & reuse strategies
4. Design Zero Liquid Discharge (ZLD) systems for industries
5. Develop circular water economy models for sustainability
6. Use AI-powered smart water monitoring & IoT sensors
7. Conduct industrial water audits and benchmarking analysis
8. Reduce operational water cost through efficiency engineering
9. Ensure environmental compliance & ESG water reporting standards
10. Integrate climate-resilient water resource planning
11. Optimize process water recycling and reuse systems
12. Manage industrial effluent treatment and discharge control
13. Achieve net-zero water and sustainability certification readiness

Target Audience

1. Environmental Engineers
2. Sustainability & ESG Managers
3. Industrial Plant Managers
4. Water Treatment Engineers
5. HSE (Health, Safety & Environment) Officers
6. Manufacturing Operations Leaders
7. Government Environmental Regulators
8. Consultants in Water & Wastewater Management

Course Modules

Module 1: Fundamentals of Industrial Water Management

- Water cycle in industrial systems
- Industrial water usage mapping
- Water quality parameters & standards
- Introduction to water footprinting
- Global water scarcity challenges
- **Case Study:** Beverage manufacturing plant water usage optimization

Module 2: Water Audit & Benchmarking Techniques

- Industrial water auditing frameworks
- Flow measurement techniques
- Water loss identification
- Benchmarking KPIs for industries
- Digital water audit tools
- **Case Study:** Textile industry water audit reducing 30% consumption

Module 3: Wastewater Treatment Technologies

- Primary, secondary, tertiary treatment methods
- Biological treatment systems
- Membrane filtration technologies
- Sludge management strategies
- Emerging hybrid treatment systems
- **Case Study:** Pharmaceutical wastewater treatment compliance upgrade

Module 4: Zero Liquid Discharge (ZLD) Systems

- ZLD process design principles
- Evaporation and crystallization systems
- Brine concentration technologies
- Energy efficiency in ZLD systems
- Cost-benefit analysis
- **Case Study:** Power plant implementing full ZLD system

Module 5: Water Recycling & Reuse Strategies

- Greywater and process water reuse
- Industrial water loop systems
- Cooling tower optimization
- Reverse osmosis applications
- Reuse risk management
- **Case Study:** Automotive industry closed-loop water recycling system

Module 6: Smart Water Management & Digital Technologies

- IoT sensors in water monitoring
- AI-based predictive analytics
- SCADA water control systems
- Real-time leakage detection
- Digital twins for water systems
- **Case Study:** Smart factory reducing water loss using IoT systems

Module 7: Environmental Compliance & ESG Reporting

- Water-related environmental regulations
- ESG disclosure frameworks
- Carbon-water nexus reporting
- ISO 14001 & ISO 14046 alignment
- Sustainability auditing

- **Case Study:** Food processing company achieving ESG water certification

Module 8: Sustainable Water Strategy & Climate Resilience

- Climate impact on industrial water supply
- Water risk assessment models
- Sustainable sourcing strategies
- Net-zero water roadmaps
- Corporate water stewardship programs
- **Case Study:** Mining company implementing water resilience strategy

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

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