AMERICAN GLOBAL INSTITUTE FOR PRIVATE TRAINING

External Training Course

Water Well Operating, Transfer, and Network Systems

From 28 Dec. 2025 To 01 Jan. 2026
From 18 Jan. 2026 To 22 Jan. 2026
From 01 Feb. 2026 To 05 Feb. 2026

InterContinental Cairo Semiramis by IHG Hotel, Cairo, Egypt

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External Training Course:

Gas Lift Systems Design, Operation & Optimization

From 28 Dec. 2025 To 01 Jan. 2026 Fees: 1750 KD
From 18 Jan. 2026 To 22 Jan. 2026 Fees: 1750 KD
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Course Overview

This intensive 5-day training course provides a comprehensive and practical understanding of water well operating systems, water transfer infrastructure, and integrated water network systems. The course is designed to equip professionals with the technical knowledge and operational skills required to efficiently operate, control, maintain, and optimize water well fields and associated transfer and distribution networks.

The program emphasizes real-world operational challenges, hydraulic performance, energy efficiency, system reliability, and sustainability. It covers the full lifecycle of water well systems—from production and pumping to transmission, storage, control, and network operation—using internationally recognized best practices.

Course Objectives

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

- Understand water well operating principles and performance characteristics.
- Operate and manage water well pumping and transfer systems efficiently.
- Design and assess water transfer and pipeline networks.
- Select, size, and operate pumps and control equipment.
- Analyze hydraulic behavior and system losses.
- Improve energy efficiency and reduce operational costs.
- Apply effective operation, maintenance, and troubleshooting techniques.
- Implement monitoring, control, and optimization strategies for water networks.

Target Audience

Water and civil engineers.
Mechanical and electrical engineers.
Water utility and municipality staff.
Operations and maintenance supervisors.
Well field and pumping station operators.
Project engineers and technical managers.
Consultants involved in water infrastructure projects.

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Training Methodology

Instructor-led technical presentations.

Practical engineering calculations and examples.

Operational case studies from water well networks.

Interactive discussions and problem-solving sessions.

Best-practice guidelines and operational checklists.

Organizational Impact

Improved reliability and continuity of water supply operations.

Enhanced operational efficiency and reduced downtime.

Lower energy consumption and optimized operating costs.

Standardized operating procedures and improved safety compliance.

Stronger asset management and longer equipment lifecycle.

Improved decision-making through better monitoring and reporting.

Increased organizational capability to respond to emergencies and system failures.

Personal Impact

Enhanced technical competence in water well and network operations.

Improved problem-solving and troubleshooting skills.

Greater confidence in operating and maintaining complex systems.

Increased awareness of safety, risk, and best operational practices.

Professional development and career advancement opportunities.

Ability to apply international best practices in daily operations.

Stronger contribution to organizational performance and sustainability.

Course Content & Outline

Day 1 – Introduction to Water Well Operations

- Course overview, structure, and learning objectives.
- Importance of water well operations in field and utility management.
- Fundamentals of water wells: types, configurations, and applications.
- Main well components and their functions.
- Basic hydrogeology: aquifers, groundwater flow, and recharge.
- Factors affecting water well performance and productivity.
- Safety protocols in water well operations.
- Personal protective equipment (PPE) requirements.
- Emergency response procedures and incident reporting.

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Day 2 – Operating Water Well Systems

- Standard operating procedures for water wells.
- Safe starting and stopping of water well systems.
- Pre-operation safety checks and readiness assessment.
- Monitoring and control systems: instruments and control panels.
- Recording and analyzing operational parameters.
- Routine inspections: visual, mechanical, and operational checks.
- Identifying early signs of common operational issues.
- Practical Session: Hands-on water well operating drills and simulations.

Day 3 – Water Transfer Methods and Systems

- Introduction to water transfer concepts and objectives.
- Overview of water transfer methods.
- Types of pumps used in water transfer systems and their applications.
- Pipeline systems: main components and functions.
- Basics of pipeline installation and maintenance.
- Valve types used in water transfer systems.
- Valve operation, inspection, and routine maintenance.
- Practical Session: Hands-on exercises on water transfer and pumping systems.

Day 4 – Water Distribution Network Systems

- Overview of water distribution and network systems.
- Key network components and operational functions.
- Basic principles of network layout and design.
- Understanding pressure zones within distribution networks.
- Pressure regulation and management techniques.
- Inspection and maintenance of water networks.
- Identifying, reporting, and addressing common network issues.

Day 5 – Troubleshooting and Continuous Improvement

- Fundamentals of troubleshooting water wells, transfer, and network systems.
- Identifying common operational and mechanical problems.
- Basic diagnostic techniques and fault identification.
- Structured problem-solving strategies.
- Use of diagnostic tools and testing equipment.
- Continuous improvement practices in water operations.
- Importance of feedback, documentation, and reporting.
- Adopting best practices to enhance efficiency and reliability.

Course Agenda:

(1st Day) Agenda

9.00	11.30	Discuss Course Major Points: • Introduction to Water Well Operations. • Operating Water Well Systems. • Water Transfer Methods and Systems. • Water Distribution Network Systems. • Troubleshooting and Continuous Improvement.
11.30	12.00	Coffee Break
12.00	14.00	Introduction to Water Well Operations: • Course overview, structure, and learning objectives. • Importance of water well operations in field and utility management. • Fundamentals of water wells: types, configurations, and applications. • Main well components and their functions. • Basic hydrogeology: aquifers, groundwater flow, and recharge. • Factors affecting water well performance and productivity. • Safety protocols in water well operations. • Personal protective equipment (PPE) requirements. • Emergency response procedures and incident reporting.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(2nd Day) Agenda

9.00	11.30	Operating Water Well Systems: • Standard operating procedures for water wells. • Safe starting and stopping of water well systems. • Pre-operation safety checks and readiness assessment. • Monitoring and control systems: instruments and control panels.
11.30	12.00	Coffee Break
12.00	14.00	Operating Water Well Systems: • Recording and analyzing operational parameters. • Routine inspections: visual, mechanical, and operational checks. • Identifying early signs of common operational issues. • Practical Session: Hands-on water well operating drills and simulations.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(3rd Day) Agenda

9.00	11.30	Water Transfer Methods and Systems: • Introduction to water transfer concepts and objectives. • Overview of water transfer methods. • Types of pumps used in water transfer systems and their applications. • Pipeline systems: main components and functions.
11.30	12.00	Coffee Break
12.00	14.00	Water Transfer Methods and Systems: • Basics of pipeline installation and maintenance. • Valve types used in water transfer systems. • Valve operation, inspection, and routine maintenance. • Practical Session: Hands-on exercises on water transfer and pumping systems.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(4th Day) Agenda

9.00	11.30	Water Distribution Network Systems: • Overview of water distribution and network systems. • Key network components and operational functions. • Basic principles of network layout and design. • Understanding pressure zones within distribution networks.
11.30	12.00	Coffee Break
12.00	14.00	Water Distribution Network Systems: • Pressure regulation and management techniques. • Inspection and maintenance of water networks. • Identifying, reporting, and addressing common network issues.
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(5th Day) Agenda

9.00	11.30	Troubleshooting and Continuous Improvement: • Fundamentals of troubleshooting water wells, transfer, and network systems. • Identifying common operational and mechanical problems. • Basic diagnostic techniques and fault identification. • Structured problem-solving strategies.
11.30	12.00	Coffee Break
12.00	14.00	Troubleshooting and Continuous Improvement: • Use of diagnostic tools and testing equipment. • Continuous improvement practices in water operations. • Importance of feedback, documentation, and reporting. • Adopting best practices to enhance efficiency and reliability.
14.00	14.30	Questions, Discussion & Conclusion Training Course.
14.30		Buffet Lunch