

Reverse Osmosis Plant (RO Plant) & Water Treatment Operations

Dubai (UAE)

1 - 12 February 2026

UK Traininig

PARTNER



Reverse Osmosis Plant (RO Plant) & Water Treatment Operations

Code: OG28 From: 1 - 12 February 2026 City: Dubai (UAE) Fees: 7800 Pound

Introduction

This course offers in-depth knowledge of Reverse Osmosis RO technology and water treatment processes. It covers the essential principles behind reverse osmosis water plants, their design considerations, operational techniques, troubleshooting, and maintenance strategies. The training also explores the practical applications of reverse osmosis systems in various industries, such as municipal, industrial, and commercial water treatment facilities. Participants will gain expertise in water quality analysis, including advanced water treatment methods and environmental monitoring, enabling them to become proficient water treatment specialists.

Course Objectives

By the end of this training, participants will:

- Understand the fundamentals of Reverse Osmosis RO technology and the components of a reverse osmosis plant, including semi-permeable membranes and pressure vessels.
- Learn the design considerations and pre-treatment systems used in reverse osmosis water plants to ensure efficiency and sustainability.
- Develop hands-on skills in operating and monitoring RO systems effectively, including industrial reverse osmosis plants and commercial reverse osmosis plants.
- Gain proficiency in troubleshooting and maintaining RO systems, addressing common issues such as membrane fouling, scaling, and pump problems.
- Understand water treatment operations for municipal and industrial systems, including regulatory standards and environmental compliance in water treatment facilities.
- Acquire knowledge in water quality monitoring through lab analysis, ensuring the quality of water in treatment systems.

Course Outlines

Day 1: Introduction to Reverse Osmosis Technology

- Basic principles of Reverse Osmosis RO technology.
- Understanding osmotic pressure and its role in RO systems.
- Properties and function of semi-permeable membranes.
- The salt rejection process in reverse osmosis plants.
- Overview of pressure vessels and their role in RO plants.

Day 2: RO Systems in Various Industries

- Overview of industries utilizing Reverse Osmosis RO systems, including industrial reverse osmosis plants.
- Applications of RO systems in water treatment across various sectors.



- Case studies of RO systems in municipal water treatment plants.
- The role of RO systems in industrial applications such as pharmaceuticals and food processing.
- Benefits and challenges of using reverse osmosis systems in different industries.

Day 3: Design of RO Systems and Pre-treatment Systems

- Key design considerations for reverse osmosis water plants.
- Types of pre-treatment systems for RO plants.
- Material selection and component choices for RO systems.
- Flow diagrams and system layouts for reverse osmosis systems.
- Optimizing design for improved system efficiency and long-term sustainability.

Day 4: Operation and Monitoring of RO Systems

- Key operational parameters for RO systems.
- Techniques for monitoring and controlling the performance of water treatment systems.
- Identifying and resolving common operational challenges in RO systems.
- Data logging and reporting techniques for RO plants.
- Best practices for daily operation and monitoring of water treatment facilities.

Day 5: Troubleshooting RO Systems

- Common problems in RO systems and their causes.
- Techniques for troubleshooting issues like membrane fouling and scaling.
- Diagnosing issues related to pressure vessels and pumps.
- Methods for cleaning and restoring RO membranes.
- Preventive maintenance strategies to reduce downtime and improve the performance of RO systems.

Day 6: Water Treatment Operations: An Overview

- Introduction to various water treatment processes.
- Types of water treatment operations at municipal and regional levels.
- Components and functions of typical water treatment plants.
- Regulatory standards and quality control in water treatment facilities.
- Environmental impacts of water treatment processes.

Day 7: Water Quality and Environmental Monitoring

- Importance of monitoring water quality in treatment plants.
- Analytical techniques for assessing water quality parameters.
- Environmental monitoring and compliance in wastewater treatment facilities.
- Monitoring parameters for wastewater treatment systems.
- Case studies of environmental impacts from untreated water.

Day 8: Water Sample Analysis in the Laboratory

- Preparing water samples for laboratory analysis.
- Key laboratory tests for assessing water quality, such as pH, turbidity, and TDS.
- Interpreting lab results and their impact on water treatment decisions.



- Using analytical instruments for water quality analysis.
- Case studies on how lab results influence the effectiveness of water treatment systems.

Day 9: Safely Operating and Troubleshooting Treatment Processes

- Safety protocols for operating water treatment systems.
- Identifying and resolving operational issues in treatment processes.
- Training on handling chemicals and hazardous materials safely.
- Preventing accidents and ensuring safety in water treatment plants.
- Hands-on exercises in troubleshooting and system recovery.

Day 10: Water and Wastewater Treatment Equipment and Suppliers

- Overview of essential water treatment equipment for both municipal and industrial water treatment plants.
- Leading suppliers and manufacturers of water treatment products.
- Evaluating equipment for efficiency, sustainability, and cost.
- Emerging trends in water treatment technologies.
- Course wrap-up, Q&A session, and participant feedback.

Why Attend This Course? Wins & Losses!

- Enhance your expertise: Learn the advanced techniques behind reverse osmosis water plants and how they are used in commercial reverse osmosis plants, industrial reverse osmosis plants, and municipal water treatment.
- Improve your career prospects: With the knowledge of water treatment plant design, RO system troubleshooting, and water quality monitoring, you'll be well-prepared for water treatment positions across industries.
- Stay ahead of industry trends: Gain insights into the latest water treatment technologies and stay updated on water treatment systems that improve operational efficiency and sustainability.
- Increase operational effectiveness: Understand how to optimize the performance of water treatment systems, reduce downtime, and enhance water quality, which is crucial for any water treatment facility.

Conclusion

This course offers a comprehensive understanding of reverse osmosis systems, from basic principles to real-world applications. Participants will be well-equipped with the skills needed to operate, maintain, and troubleshoot reverse osmosis plants, as well as improve water quality and meet regulatory standards. If you are aiming to advance your career as a certified water treatment specialist or water treatment plant operator, this course provides the essential tools for success in the ever-evolving water treatment industry.

Blackbird Training Cities

Europe



Malaga (Spain)



Sarajevo (Bosnia and Herzegovina)



Oporto (Portugal)



Glasgow (Scotland)



Edinburgh (UK)



Oslo (Norway)



Annecy (France)



Bordeaux (France)



Copenhagen (Denmark)



Birmingham (UK)



Lyon (France)



Moscow (Russia)



Stockholm (Sweden)



Podgorica (Montenegro)



Batumi (Georgia)



London (UK)



Istanbul (Turkey)



Amsterdam



Düsseldorf (Germany)



Paris (France)



Athens (Greece)



Barcelona (Spain)



Munich (Germany)



Geneva



Prague (Czech)



Vienna



Rome (Italy)



Brussels



Madrid (Spain)



Berlin (Germany)



Lisbon (Portugal)



Zurich



Manchester (UK)



Milan (Italy)



Blackbird Training Cities

USA & Canada



Los Angeles (USA)



Orlando, Florida (USA)



Online



Phoenix, Arizona (USA)



Houston, Texas (USA)



Boston, MA (USA)



Washington (USA)



Miami, Florida (USA)



New York City (USA)



Seattle, Washington (USA)



Washington DC (USA)



In House



Jersey, New Jersey (USA)



Toronto (Canada)

ASIA



Baku
(Thailand)



Maldives (Maldives)



Doha (Qatar)



Manila (Philippines)



Bali (Indonesia)



Bangkok



Beijing (China)



Singapore (Singapore)



Sydney



Tokyo (Japan)



Jeddah (KSA)



Riyadh (KSA)



Melbourne
(Indonesia)



Dubai (UAE)



Kuala Lumpur (Malaysia)



Kuwait City (Kuwait)



Pulau Ujong (Singapore)



Jakarta



Amman (Jordan)



Beirut



Blackbird Training Cities

AFRICA



Kigali (Rwanda)



Cape Town



Accra (Ghana)



Lagos (Nigeria)



Marrakesh (Morocco)



Nairobi (Kenya)



Zanzibar (Tanzania)



Tangier (Morocco)



Cairo (Egypt)



Sharm El-Sheikh (Egypt)



Casablanca (Morocco)



Tunis (Tunisia)



Blackbird Training Clients



MANNAI Trading
Company WLL,
Qatar



Alumina Corporation
Guinea



Booking.com
Netherlands



Oxfam GB International
Organization,
Yemen



Capital Markets
Authority,
Kuwait



Waltersmith Petroman Oil Limited
Nigeria



Qatar National Bank
(QNB),
Qatar



Qatar Foundation,
Qatar



AFRICAN UNION ADVISORY
BOARD ON CORRUPTION,
Tanzania



KFAS
Kuwait



Reserve Bank of
Malawi,
Malawi



Central Bank of Nigeria
Nigeria



Ministry of Interior
Kingdom of Saudi Arabia
KSA



Mabruk Oil Company
Libya



Saudi Electricity
Company,
KSA



BADAN PENGELOLA
KEUANGAN Haji,
Indonesia



NATO
Italy



ENI CORPORATE
UNIVERSITY,
Italy



Gulf Bank
Kuwait



المؤسسة العامة للتأمينات الاجتماعية
General Organization for
Social Insurance
KSA



Defence Space Administration
Nigeria



National Industries
Group (Holding),
Kuwait



Hamad Medical
Corporation,
Qatar



USAID
Pakistan



STC Solutions,
KSA



North Oil company,



EKO Electricity



Oman Broadband



UNITED NATIONS
UN.



هيئة تنظيم الكهرباء - عمان
AUTHORITY FOR ELECTRICITY REGULATION, OMAN
Authority for

UK Training
PARTNER



Blackbird Training Categories

Management & Admin

Professional Skills
Finance, Accounting, Budgeting
Media & Public Relations
Project Management
Human Resources
Audit & Quality Assurance
Marketing, Sales, Customer Service
Secretary & Admin
Supply Chain & Logistics
Management & Leadership
Agile and Elevation

Technical Courses

Hospital Management
Public Sector
Special Workshops
Oil & Gas Engineering
Telecom Engineering
IT & IT Engineering
Health & Safety
Law and Contract Management
Customs & Safety
Aviation
C-Suite Training



International House 185 Tower Bridge
Road London SE1 2UF United Kingdom



+44 7401 1773 35
+44 7480 775526



Sales@blackbird-training.com



www.blackbird-training.com

UK Training

PARTNER

