



## Workshop on Water Treatment, Distribution Systems & Facility Maintenance

March 24 – 28, 2025, 1<sup>st</sup> Run: Lagos & Port Harcourt

September 15 – 19, 2025, 2<sup>nd</sup> Run: Lagos & Abuja

**For Tutor -Led Class:** 9am – 4:30pm

**Workshop fee:** N300, 000 per Participant

**For online:** Delivery via Zoom

**Online course fee:** N250, 000 per Participant

**Available for In-plant Training**

**700 U\$D for foreign  
Participants**

### Program Overview:

Water pollution and regulated substances are growing at a fast pace and there is need for continuous supply of water of appropriate specifications to numerous applications in our communities and process industries. The dire need for water production, treatment and distribution, in order to balance demand and supply and provide water that is fit-for-purpose, is therefore a must in our daily lives.

This Water treatment, distribution systems and facility maintenance course will focus on existing and emerging water production, treatment, distribution and maintenance techniques that are available and are used in a wide range of domestic and industrial applications. It will equally provide valuable information on those decisions that are needed in order to attain a sustainable balance between Health & Safety and Regulatory considerations.

### For Whom:

This course is designed for Community water project managers. Process plant engineers in water treatment sector, quality assurance departments of waterboards and local water authorities, health & safety inspectors of regulatory authorities and facility maintenance management personnel. Maintenance personnel in healthcare and hospitality industry will equally benefit from this program.

### Learning objectives:

At the end of the course, participants will be able to;

- explain the full process of water treatment, distribution systems and facility maintenance;
- select and apply appropriate water treatment techniques;
- develop suitable monitoring plans to assess the effectiveness of the chosen treatment technique;
- carry out inspections to optimize the treatment regime and ensure on-going fitness for purpose;
- ensure that water treatments meet regulatory requirements;
- gain practical knowledge of operating and maintaining water distribution system; and
- emphasize safe practices and procedures in maintenance jobs

### Course Outline:

#### Day One: Understanding Water Treatment

- Water treatment – Terms and Definitions
- Water pollution and main groups of water pollutants – Pollutants vs Contaminants
- Effect of treatment techniques on chemical composition and microbiological quality
- Biochemical water treatment - Biological oxidation/Aeration, biofilters

#### Day Two: Physical treatment techniques (sedimentation, filtration, dissolved air flotation - DAF etc.)

- The concept of Mobile Water Treatment (MWT) – applications and benefits

Human Capital Associates Global Consult Ltd is Accredited by Nigeria Council for Management Development (NCMD)

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- Wastewater treatment;
  - Definition, Types of Wastewaters
  - Primary, secondary & Tertiary treatment of wastewater
- Applications of treated wastewater including water reuse - Restrictions & Regulations

#### **Day Three: Drinking Water Treatment**

- Review of international and local regulations and policies on drinking water quality
- Continuous monitoring of water quality & Process optimization
- Typical treatment techniques applied in the production of drinking water
- Hot & Cold-water systems – Basic considerations for corrosion and scale inhibition
- Case studies/Examples

#### **Day 4: Drinking water storage & distribution networks**

- Main objectives and components of Water Distribution systems;
- Water demand categories, patterns, calculation and forecasting;
- Steady-state hydraulics of pressurized flows, single pipe calculation, branched and looped networks, pressure driven demand;
- Hydraulics of storage tanks and pumps;
- Hydraulic design: choice of supply scheme, network layouts, design of pumping stations, power requirements and energy consumption;
- Engineering design: choice of pipe materials, valves and other equipment;
- Network construction: pipe laying, testing and disinfection;
- Operation & maintenance: regular & irregular supply, network cleaning and rehabilitation.

#### **Day Five: Water Distribution System Operation and Maintenance**

- Water distribution system operator duties;
- Procedures for operating and maintaining clear wells and storage tanks;
- Operating and maintaining distribution systems;
- Water Loss Management and Control:
  - Definition of non-revenue water
  - and IWA terminology used in the sector;
- Components of water losses, methods of reducing and controlling real- and apparent network losses;
- Leak location and repair techniques, pressure management
- Maintaining water quality in the system;
- Disinfecting new and repaired facilities, as well as water delivered to consumers;
- Techniques for recognizing hazards and developing safe procedures and programs.

#### **Training Methodology**

Lectures, discussions, exercises, case studies, audio-visual aids will be used to reinforce these teachings/learning methods.

#### **LOCATIONS**

1 - HCA Learning Centre. Acme House 2nd Floor, 23, Acme Road, Ogba, Industrial Scheme, Ikeja, Lagos, Nigeria

2 - Pearls Learning Hub, Plot 756, Opposite Divine Hand of God Ministry, Area 1, Garki, Abuja.

3 – Pakiri hotel Ltd., 4 Okwuruola Street, off Stadium Road, Rumuola, Port Harcourt, Rivers State.

**Open Course Fee: N300, 000**  
In-plant Fee Negotiable

#### **WORKSHOP FEE:**

**N300, 000 per participant, VAT –N22, 500**

Note: this covers Workshop Fee, Tea/coffee break, Lunch, course materials and certificate of attendance.

Payment should be made into our Accounts:

Account Name: Human Capital Associates Global Consult Ltd.

Union Bank of Nig. PLC: Account No: 0097961537

First Bank of Nig. PLC: Account No: 2033683960

Keystone Bank Ltd.: Account No: 1007150325

**For Booking / Enquiry, Call: 234-8051365946, 234-7087578814  
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