

WATER MANAGEMENT MASTERCLASS

DRINKING , DOMESTIC & INDUSTRIAL WASTEWATER

23 -24 March 2026

On-Line Workshop Live Stream Sessions

Objectives & outcomes of the course: Drinking Water

- Identifying ways of assessing water for its “fit for use”
- Understanding and applying the new SANS 241: 2015
- Appreciating the importance of continuous monitoring and assessment of drinking water quality
- Gaining insight into the current blue-drop requirements
- Determining water pollution control measures
- Learning solutions and challenges faced while maintaining and improving a robust ,high quality drinking water system
- Explaining what is currently being done wrong and what can be done right in protecting water quality.

Objectives & outcomes of the course: Domestic Wastewater

- Understanding the need for water quality and treatment
- A knowledge of the various water sources available for purifying to drinking water quality
- An understanding of the water quality parameters of these water sources preventing the safe drinking of water
- A knowledge & understanding of the various processes required to treat these sources to a potable water quality
- Understanding the need for municipal wastewater management & treatment
- Understanding the municipal by-law limitations for wastewater disposal to sewer

Objectives & outcomes of the course: Industrial Wastewater

- The need for industrial water management & treatment
- The Municipal levy system
- The various types of industrial water and effluents
- A knowledge & understanding of the various processes required to treat these sources to the required quality level
- The ability to apply the most suitable process & design concepts of the processes

WORKSHOP TIMES: Per day over 2 days

- 08h30 – 10h30 start training- First training session
- 10h30 – 11h00 Mid-morning break
- 11h00 13h00 second training session
- 13h00 14h00 Lunch break
- 14h00- 15h30 third training session
- 15h30 Close of workshop



Drinking Water Treatment

Introduction to drinking water quality

Definition of terms

Fitness for use

Characterisation of domestic water use

Constituents and their effects

Blue-Drop requirements

Water Safety Planning (WSP)

Process management and control

Drinking Water Quality Verification and SANS 241: 2015

Management, accountability and local regulation

Asset management

Water treatment processes

Coagulation/flocculation

Sedimentation and flotation

Sand filtration

Disinfection

Chemical stabilisation

Fluoridation

Residuals handling and treatment

Advanced processes

Requirements and Compliance

Drinking water quality compliance

Minimum requirements for drinking water quality

Compliance calculations

Compliance and risk management

Calculations and their applications

Treatment of Various Sources of Water to Drinking Water

Inland surface waters

Groundwater

Sewage Water (reclamation)

Seawater (desalination)



Domestic Wastewater

The need for wastewater management & treatment re.human health & the environment

Municipal by-law requirements, limitations & levies for discharge of effluents to sewer

Application of Govt. legislation:

General & Special

Standards for discharge to the environment

The typical undesirable pollutants to remove

Collection & conveying of sewerage and the diurnal & weekly cycles

Storm water management

Characterization of sewage effluent

The microbiology of sewage treatment

The treatment of sewage effluents & processes

normally employed (= standard sewage treatment, without nutrient removal):

Course screening

Grit removal

Flow equalization

Fat & grease removal

Primary settling

Activated sludge system (without nutrient removal)

Secondary settling

Anaerobic sludge digestion

Final effluent disinfection

Sludge handling, disposal & utilization

Nutrient removal sewage treatment processes:

Biological nitrogen removal

Biological excess phosphorus removal

Design considerations for biological nitrogen and phosphorus removal plants

Treatment processes covered additionally:

Chemical treatment for phosphorus removal

Activated sludge systems using Membrane Bioreactors

Pond systems

Rotating biological contactor

Sequencing batch reactors

Trickling filters

Bio filtration (bio towers)

Reed beds

Other & new processes (example - Moving bed bio film reactor...)

Tertiary treatment of effluents for municipal & industrial reuse of water

Tertiary treatment of sewage effluents for potable water supply (= "water reclamation")

The future of sewage effluent treatment & the reclamation of valuable by-products



Industrial Wastewater

The need for industrial water management & treatment

The Municipal levy system

The various types of industrial water and effluents

A knowledge & understanding of the various processes required to treat these sources to the required quality level

The ability to apply the most suitable process & sizing of the selected process

Processes covered for the removal of solids and suspended solids (and including fats, oil & grease)

Course screening

Flow equalization

pH adjustment

Coagulation & flocculation (including for fats, oil & greases)

Settling/DAF

Sand filtration

Membranes for particulates removal

Removal of dissolved material

Removal of hardness (Nano filtration, Reverse osmosis, Ion exchange)

Removal of dissolved metals, salts and low concentrations of unwanted organic pollutants (pH elevation and precipitation, Activated carbon, Ion exchange (IX), reverse osmosis (RO))

Removal of high COD(high biological content):

Anaerobic ponds

Aerobic ponds

Physico-chemical processes (coagulation, flocculation and settling/DAF)

Anaerobic systems (standard, UASB)

Bio filtration (bio towers)

Activated sludge systems

Membrane bioreactors

Solids thickening, dewatering & drying

Screens

Gravity & DAF thickening

Centrifugation

Filter presses

Drying beds

Sampling

Objectives and Concepts

Preparing for the Sampling Program

Sample Collection





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23 - 24 March 2026



BOOKING FORM

On-Line Training

GPW

Email Completed Registration Form To: dev@gptc.co.za

Company Name: _____

Type of Business: _____

Address: _____

Tel: _____ Fax: _____ VAT Number: _____

Delegate 1: _____

Position: _____ E-Mail: _____

Delegate 2: _____

Position: _____ E-Mail: _____

Delegate 3: _____

Position: _____ E-Mail: _____

Delegate 4: _____

Position: _____ E-Mail: _____

Delegate 5: _____

Position: _____ E-Mail: _____

AUTHORISATION: *Signature must be authorised to sign on behalf of Company*

Name: _____

Position: _____

Signature: _____ Date: _____

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- 1. Bank Transfer- Global Prospectus Training Centre (PTY) Ltd. 2. Cheques- Made Payable to: Global Prospectus Training Centre (PTY) Ltd.
- First National Bank: Randburg 3. Swift code: FIRZAJJ
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- Branch Code: 254005

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