

2 CPD POINTS

**LIVE-ON ZOOM**



**MODELLING AND SIMULATION OF  
WASTEWATER TREATMENT PROCESSES**

**1-2 FEBRUARY 2021**

**ON-LINE CLASS**

**R3999**

**2 CPD Points  
SAAMA:2017568**

## **COURSE OVERVIEW**

The course on Modelling and Simulation of Wastewater Treatment Processes provides delegates in attendance an understanding as well as demonstrating and fine-tuning the processes that are commonly used in wastewater treatment plants. The aim of this training workshop is to identify and assess current methods and technologies currently used in waste-water treatment.

During the workshop delegates will delve into, basic kinetic concepts for the removal of water pollutants together with the application of kinetic principles in several reactor designs. Delegates will take away essential skills on biochemical kinetic reactions, and be able to apply practical skills while expanding knowledge in the design and operation of real systems through specialised software that simulates these processes.

## **WHO SHOULD ATTEND?**

- Water Quality Specialists
- Wastewater Services Managers and Practitioners
- Scientific and Laboratory Managers and Technicians
- Treatment Process Engineers
- Technical Managers and Supervisors in water and wastewater treatment plants
- Senior Process Controllers
- Municipal Water Treatment Personnel
- Municipal Management
- Water and Wastewater Consultants
- Drinking Water Quality Managers and Practitioners
- Environmental Health Practitioners

### ***Benefits of attending;***

- Setup and run simulation for pollutant removal in reactors and activated sludge systems
- Advice on best choice of treatment process given particular loading conditions.
- Design and evaluate continuous-flow and mixed reactor systems.

## **DAY ONE**

- ✓ Exploring biochemical kinetic reactions
- ✓ Kinetic laws
- ✓ Delving into examples of operation of unit operations
- ✓ Exploring each unit operation
- ✓ Examining examples of operation of unit processes
- ✓ Gaining insight into Simulation of batch processes
- ✓ Question and Answers

## **DAY TWO**

- ✓ Reviewing aspects of Digesters
- ✓ Hydraulic Retention Time (HRT)
- ✓ Residence time distribution
- ✓ Sludge Retention Time (SRT)
- ✓ Aspects of dispersion and mass transfer in reactor systems
- ✓ Calculating Mass Transfer
- ✓ Simulation of Continuous Stirred Tank, continuous flow processes
- ✓ Dynamic Analysis
- ✓ Adaptive Control
- ✓ Transient simulation of reactors in series with pollutant removal kinetics
- ✓ Operation and simulation of packed-bed fixed-film (bio-filter) reactor systems
- ✓ Activated sludge processes
- ✓ fixed-bed bioreactors

### ***Case studies:***

Delegates will participate in an interactive discussion on Modelling and Simulation of Wastewater Treatment of Poultry Plant.

## **ABOUT YOUR FACILITATOR**

### **BRETT KEYSER**

He has been passionate about water and wastewater since his first job as a Laboratory Assistant at Midrand Municipality. His career has covered many spheres within the water fraternity - water laboratory services, operation of water and wastewater treatment works and anaerobic digester plants, design and installation of industrial effluent treatment plants, supply of water chemicals, facilitating and assessing the training of water and wastewater staff, design and installation of irrigation systems, regulatory compliance, specialist water and wastewater systems assessor and advisor, project management of water and wastewater projects and the design, manufacture and installation of small water and wastewater treatment plants.

He has worked with many exceptionally talented water professionals on many infrastructure projects and studies and have gained valuable experience, both strategically and practically and prefer to see himself as someone who can apply theory into practice, both in an operational capacity, but also as a commercial business. Setting standards of best practice, transferring this knowledge to students, colleagues and clients, and ensuring that sustainable systems are in place to ensure excellent water and wastewater treatment service delivery, has always been a key part of his day-to-day routine.

As sole shareholder and Managing Director of W2 Africa (Pty) Ltd he has applied his experience and knowledge to manufacture pre-designed, water, sewage and industrial effluent treatment plants that produce water that is "fit-for-use", as required by each of his customers. These small treatment plants, which are sold locally, in Africa and abroad, ensure that his customers' save and reuse water, that they protect the environment, and that they comply with local and international regulation, thereby ensuring them a sustainable future.



# MODELLING AND SIMULATION OF WASTEWATER TREATMENT PROCESSES

1-2 February 2021 | On-Live Zoom

## MBQUIP PTY LTD

Event Code: MBQ20/004

Please complete the registration  
form and return to our office by

email to:  
[info@mbquip.co.za](mailto:info@mbquip.co.za)

011 326 1251

Company Name: \_\_\_\_\_

VAT Number: \_\_\_\_\_

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| DELEGATE NAME | JOB TITLE | EMAIL ADDRESS |
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## PAYMENT METHOD

Please select the mode of payment  
by ticking next to the appropriate  
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- Electronic Transfer
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**Payments:** Payment should be made within 5 working days after receipt of invoice unless agreed otherwise prior to the confirmation of the booking. Payment maybe made using the payment methods provided on our invoice. Please note that full payment must be received prior to the event. Only delegates who have made full payment will be admitted into the event unless agreed otherwise with the MB Quip Management.

**Cancellations:** The client hereby agrees that once a signed registration form is received and the authorizing signature is confirmed by our office. The booking will be entered into our registration register. The client agrees to inform MB Quip (Pty) Ltd of all cancellations in writing. Cancellations received after the booking has been received and confirmed will be charged a service fee of 5% of the price. Cancellations received 4 weeks before the event will be liable for a 50% cancellation fee. Cancellations received 2 weeks prior to the event will be liable for a 70% cancellation fee and cancellations received 1 week prior to the event will be charged at 100% cancellation fee.

**Delegate substitutions** are welcome at anytime without any service charges. Credit vouchers to attend any other MB Quip (Pty) Ltd events will be issued once payment has been received. No show delegates will be provided with a credit voucher. Indemnity – Under catastrophic circumstances beyond our control MB Quip (Pty) Ltd may change the Venue, Speakers, or cancel the event. MB Quip (Pty) Ltd shall try to reschedule the event and will advise the delegate to transfer to another event of their choice within a period of 12 months. The client will not hold MB Quip (Pty) Ltd liable for any costs, damages and expenses, including attorney fees, which may be incurred by the client. The Laws of South Africa to the exclusive jurisdiction of whose courts the parties agree to submit shall govern the formulation, validity and performance of this contract or agreement in every and all respects.

## Banking Details:

Account Name: MB Quip (PTY) Ltd  
Bank: Standard Bank  
Account Number: 420342184  
Branch Code: 051001  
Branch: Randburg

## Delegate Fees

# R 4999

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Name and Signature of Authorizer