



PROCESS AND CHEMICAL ENGINEERING

Municipal Wastewater Treatment Works Operation

5 day course

Classroom, online or in-house

Course overview

A sewage works is a biological process that must keep working while its incoming load varies through the day, rises without warning during rain and occasionally arrives with something that should never have been discharged to a sewer. This course covers operating it. Delegates work through the treatment sequence and what each stage is for, beginning with screening, grit removal and the primary settlement that protects everything downstream. Activated sludge is covered in operational detail: aeration control, mixed liquor concentration, sludge age and the settlement problems that follow from getting them wrong. Alternative biological processes including trickling filters and ponds are addressed. Nutrient removal is covered where consent requires it. Secondary settlement and effluent quality follow. Sampling, testing and reporting against a discharge consent are addressed. The course closes on wet weather operation, on process recovery after a shock load, and on the offences a works can commit.

What you will learn

- Explain what each stage of the treatment sequence achieves
- Operate screening, grit removal and primary settlement
- Control aeration, mixed liquor concentration and sludge age
- Diagnose bulking, foaming and other settlement problems
- Operate trickling filters, ponds and nutrient removal where used
- Sample, test and report against a discharge consent
- Manage wet weather flow and recover the process after a shock load

Who should attend

- Wastewater treatment works operators and supervisors
- Municipal process controllers
- Environmental and compliance officers at utilities
- Engineers responsible for sewage treatment assets
- Laboratory staff supporting works operation

Course outline

- 01 A biological process under a varying load
- 02 Screening, grit removal and primary settlement
- 03 Activated sludge and aeration control
- 04 Mixed liquor, sludge age and settlement problems
- 05 Trickling filters and pond systems
- 06 Nutrient removal and secondary settlement
- 07 Sampling, testing and discharge consent reporting
- 08 Wet weather operation, shock loads and offences

Upcoming dates



Dates	Venue	Format	Fee per delegate
7 to 11 December 2026	Pretoria, South Africa	Classroom	R19,950
28 December 2026 to 1 January 2027	Lagos, Nigeria	Classroom	USD 1,325
25 to 29 January 2027	Harare, Zimbabwe	Classroom	USD 1,325
8 to 12 February 2027	Cape Town, South Africa	Classroom	R19,950

Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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