



# WE041: Operation and Maintenance of Wastewater Treatment Plants



## Training Description:

This is a course about how to operate a wastewater treatment plant. It will address the basics of O&M, plus how to control the plant operations.

## Training Objectives:

By the end of the training, participants will be able to:

- ✓ Obtain knowledge on operation and maintenance of wastewater treatment plants
- ✓ Operate and maintain wastewater treatment plants and the associated equipment
- ✓ Understand the requirements of preventive maintenance in wastewater treatment plants

## Training Designed for:

This course is intended for waste water treatment plant personnel, supervisors, laboratory personnel, and plant operators and technicians.

## Training Program:

### DAY ONE:

- ❖ Pre-Test
- ❖ Introduction
- ❖ Wastewater Treatment Plant Basics & Types of Plants
- ❖ What you can control & what you have to live with
- ❖ Elements of a Plant
- ❖ Flow Measurements
- ❖ Flow Characteristics - is it already anaerobic?
- ❖ Screening
- ❖ Grit Removal
- ❖ Sedimentation
- ❖ Aeration
- ❖ Pumps and Pumping
- ❖ Clarifiers
- ❖ Filters
- ❖ Membranes
- ❖ Disinfection
- ❖ Discharge
- ❖ Recap

### DAY TWO:

- ❖ Detailed look at each of the systems, and operating parameters
- ❖ What needs Maintenance, Attention and what frequency?
- ❖ Flow Measurements
- ❖ Screening
- ❖ Grit Removal
- ❖ Sedimentation
- ❖ Aeration





- ❖ Clarifiers
- ❖ The importance of the laboratory and tests and measurements
- ❖ BOD vs. COD
- ❖ TSS & VSS Control
- ❖ Other Control Parameters

#### DAY THREE:

- ❖ Pumps and Pumping and Recirculation & Maintenance
- ❖ Controlling MLSS
- ❖ Nitrogen and Phosphorous Removals & Recirculation Ratios
- ❖ Clarifiers & Maintenance
- ❖ Sludge Thickening

#### DAY FOUR:

- ❖ Sludge dewatering
- ❖ Sludge digestion Aerobic and Anaerobic
- ❖ Sludge drying, incineration and land spreading/landfilling
- ❖ Introduction to Preventive Maintenance
- ❖ Statistical basics and how to keep up with your maintenance schedule

#### DAY FIVE:

- ❖ What to do with Septage Transport Trucks
- ❖ Maintaining the Aeration System & Blowers
- ❖ How to tell what's happening in your plant with a Microscope
- ❖ Foaming and trouble shooting
- ❖ Pumping Stations and their Maintenance
- ❖ Pipeline and Force Main Maintenance
- ❖ Feedback to the laboratory/ from the laboratory
- ❖ Practice Operating a Plant from models - diagnosing troubles
- ❖ Course Conclusion
- ❖ POST-TEST and EVALUATION

### Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request”.

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

### Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test





## Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.

## Training Fees:

**As per the course location** - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

## Training Timings:

### Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

**For training registrations or in-house enquiries, please contact:**

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Training & Career Development Department

