



# دورة تدريبية في المعالجة البيولوجية للمياه العادية (مياه الصرف الصحي)



**AGILE LEADERS**  
Training Center

23 - 27 Mar 2027  
القاهرة



## دورة تدريبية في المعالجة البيولوجية للمياه العادمة (مياه الصرف الصحي)

الرجوع: 26\_40086 التاريخ: 23 - 27 Mar 2027 الموقع: القاهرة الرسوم: Euro 4100

### The Advanced Biological Wastewater Treatment Course: Principles, Modelling & Design Overview:

Dive into a comprehensive journey through the intricate details of wastewater management with "The Advanced Biological Wastewater Treatment Course: Principles, Modelling & Design." This course is meticulously designed to address vital areas such as Biological Wastewater Treatment, Modelling Biofilms, and Advanced Wastewater Treatment Principles. Participants will delve into the complex worlds of Microbial Metabolism, Organic Matter Removal, and explore innovative strategies in Nitrogen Removal, Phosphorus Removal, and Pathogen Removal. Unveil the secrets behind effective Aeration and Mixing, and tackle challenges related to Toxicity in Wastewater Treatment, all while navigating through practical and theoretical aspects of Membrane Bio-reactors and Modelling Activated Sludge Processes.

### Target Audience:

- Environmental Engineers
- Wastewater Treatment Plant Operators
- Environmental Consultants
- Municipal Water Authority Personnel
- Environmental Science Students and Academicians

### Targeted Organizational Departments:

- Environmental Management
- Wastewater Treatment and Management
- Quality Control
- Health and Safety

### Targeted Industries:

- Wastewater Treatment Plants
- Chemical Manufacturing Industries
- Pharmaceutical Companies
- Municipal Corporations
- Environmental Consulting Firms

## Course Offerings:

Participants will acquire skills and knowledge in:

- Utilizing advanced wastewater treatment principles
- Implementing effective wastewater treatment design
- Undertaking accurate wastewater characterization
- Engaging in sustainable and effective nitrogen and phosphorus removal strategies
- Employing strategies for effective pathogen removal and managing bulking sludge

## Training Methodology:

Embracing a blend of theoretical knowledge and practical application, this course engages participants through interactive sessions, real-life case studies, and group work revolving around Advanced Wastewater Training topics like Modelling Biofilms and Anaerobic Wastewater Treatment. Experts in microbial metabolism and wastewater treatment design will guide through intricate concepts, ensuring a solid understanding of theory and its practical implementation in the wastewater treatment process. Moreover, hands-on experiences such as visits to wastewater treatment plants and interactive workshops will solidify learning and skills development.

## Course Toolbox:

- Workbooks on Nitrogen Removal, Phosphorus Removal, and Anaerobic Wastewater Treatment
- Modelling Software for Wastewater Treatment Design
- Online resources for further reading on Biological Wastewater Treatment
- Checklists for Process Control in Wastewater Treatment
- Templates for implementing Modelling Activated Sludge Processes

## Course Agenda:

### Day 1: Understanding the Basics of Wastewater Treatment

- An Overview of Global Sanitation and Wastewater Treatment Topic 1:
- The History and Development of Wastewater Treatment Topic 2:
- Introduction to Wastewater Characteristics Topic 3:
- Significance of BOD and COD in Wastewater Analysis Topic 4:
- Microorganisms and Their Role in Treatment Topic 5:
- Analyzing the Progress and Evolution of Wastewater Management Globally Reflection & Review:



## Day 2: Exploring Microbial Metabolism and Organic Matter Removal

- Basics of Microbial Metabolism in Wastewater Treatment Topic 1: •
- Diving into Stoichiometry and Energetics Topic 2: •
- Understanding Organic Matter and its Removal Topic 3: •
- Designing Activated Sludge System & Addressing Constraints Topic 4: •
- Delving into Steady-State System Equations and Design Topic 5: •
- Linking Microbial Activity with Organic Matter Removal Reflection & Review: •

## Day 3: Tackling Nitrogen and Phosphorus Removal

- Introduction to Nitrification and Its Biological Kinetics Topic 1: •
- Designing Systems for Effective Nitrogen Removal Topic 2: •
- Exploring Innovative Strategies for Nitrogen Elimination Topic 3: •
- Understanding and Implementing Phosphorus Removal Topic 4: •
- Mechanisms and Optimization of Enhanced Biological Phosphorus Removal EBPR Systems Topic 5: •
- Understanding the Challenges and Solutions in Nutrient Removal Reflection & Review: •

## Day 4: Addressing Advanced Wastewater Treatment Techniques

- Ensuring Pathogen Removal and Ensuring Safe Water Release Topic 1: •
- Key Concepts in Aeration and Mixing in Wastewater Treatment Topic 2: •
- Managing Toxicity and Ensuring Non-Hazardous Effluent Topic 3: •
- Addressing Challenges: Bulking Sludge and Filamentous Bacteria Topic 4: •
- Exploring Membrane Bio-reactors and Their Applications Topic 5: •
- Balancing Advanced Techniques to Achieve Optimal Treatment Reflection & Review: •

## Day 5: Integrating Modelling, Process Control, and Anaerobic Treatment

- Introduction to Modelling Activated Sludge Processes Topic 1: •
- Why Modeling? Understanding the Basics and Importance Topic 2: •
- Strategies and Importance of Process Control in Wastewater Treatment Topic 3: •
- Exploring Anaerobic Wastewater Treatment and Sustainability Topic 4: •
- Deep Dive: Microbiology and Kinetics of Anaerobic Conversions Topic 5: •
- Connecting Theory to Practical Applications in Wastewater Treatment Reflection & Review: •

## How This Course is Different from Other Courses:

"The Advanced Biological Wastewater Treatment Course: Principles, Modelling & Design" offers an unparalleled deep-dive into the sophisticated realms of wastewater treatment, steering away from conventional approaches and embracing the latest innovations and strategies in Biological Wastewater Treatment and Design. From mastering the Microbial Metabolism and Wastewater Characterization to practically applying knowledge in Organic Matter, Nitrogen, and Phosphorus Removal, this course intertwines theory and practicality seamlessly. It not only addresses the theoretical aspects of wastewater treatment but also furnishes participants with a hands-on experience in navigating real-world challenges via in-depth modules on managing toxicity, Pathogen Removal, and employing cutting-edge technologies like Membrane Bio-reactors.



## فئات الدورات التدريبية



HR TRAINING & DEVELOPMENT

دورات إدارة و تطوير الموارد البشرية



دورات إدارة و تحليل البيانات ودورات علم البيانات



دورات إدارة الجودة وتطوير العمليات



الدورات التدريبية في مجال البيئة والاستدامة



دورات التسويق وإدارة علاقات العملاء وإدارة المبيعات



دورات التدريب القانوني والمشتريات والتعاقدات



دورات الاتصال الجماهيري و السياسات والعلاقات العامة



دورات النظم السيرياني ودورات تقنية المعلومات



دورات الصيانة ودورات المجالات الهندسية المتنوعة



دورات الصحة والسلامة والأمن المهني



دورات السكرتارية و إدارة المكاتب



دورات الحوكمة وإدارة المخاطر والامتثال



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## فئات الدورات التدريبية



دورات معتمدة من قبل هيئات دولية



دورات في مجالات القيادة والإدارة



دورات المهارات الشخصية وتطوير الذات



دورات المحاسبة و التمويل و دورات الإدارة  
المالية



دورات مكتب إدارة المشاريع وإدارة المشاريع  
الرشيقية

## مدن التدريب



اسطنبول - تركيا



أمستردام - هولندا



أكرا - غانا



أثينا - اليونان



الرياض - المملكة العربية السعودية



الدوحة - قطر



الدار البيضاء - المغرب



الجبيل - المملكة العربية السعودية



باريس - فرنسا



المنامة - مملكة البحرين



الكويت - الكويت



القاهرة - مصر



براغ - جمهورية التشيك



بانكوك - تايلند



بالي - جمهورية إندونيسيا



باكو - أذربيجان

## مدن التدريب



جاكرتا - جمهورية اندونيسيا



تبليسي - جورجيا



بوكيت - تايلاند



برشلونة - إسبانيا



روما - إيطاليا



دبي - الإمارات العربية المتحدة



جوهانسبرغ - جنوب إفريقيا



جنيف - سويسرا



شرم الشيخ - مصر



سيول - كوريا الجنوبية



سان دييغو - الولايات المتحدة الأمريكية



زنجبار - تنزانيا



طوكيو - اليابان



طشقند - أوزبكستان



طرابزون - تركيا



شيكاغو - الولايات المتحدة الأمريكية

## مدن التدريب



كوالالمبور - ماليزيا



فيينا - النمسا



عن بعد - منصة زووم



عمان - المملكة الأردنية الهاشمية



ماربيا - اسبانيا



لندن - المملكة المتحدة



لانكاوي - ماليزيا



كيب تاون - جنوب إفريقيا



ميلان - إيطاليا



مونترنو - سويسرا



مسقط - سلطنة عمان



مدريد - إسبانيا



نيس - فرنسا



نيروبي - كينيا



ميونخ - ألمانيا

# WHO WE ARE

Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

## OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

## OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

## WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



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## CONTACT US

 UAE, Dubai Investment Park First

 +971585964727  
+447700176600

 [sales@agile4training.com](mailto:sales@agile4training.com)