

# OIL REFINERY AND PETROCHEMICAL WASTEWATER TREATMENT SOLUTIONS

*"Sustainable Wastewater Management for Oil & Petrochemical Industries"*

## Schedule

Date	Venue	Fees (Online)
12 - 13 May 2026	Online	USD 700 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

## Introduction

Effective wastewater treatment is critical for oil refinery and petrochemical operations, not only to meet environmental regulations but also to protect public health and enhance sustainability. This course provides participants with an in-depth understanding of wastewater treatment solutions, covering advanced technologies, operational best practices, and regulatory compliance specific to oil and petrochemical industries.

Through interactive sessions, case studies, and practical exercises, participants will learn to design, operate, and optimize wastewater treatment systems while ensuring environmental compliance. The training emphasizes practical strategies for treating complex refinery effluents, minimizing environmental impact, and supporting sustainable industrial operations.

## Objectives

By the end of this course, participants will be able to:

- Understand the characteristics and challenges of refinery and petrochemical wastewater
- Apply advanced wastewater treatment techniques and technologies
- Design and optimize treatment solutions for operational efficiency
- Ensure compliance with environmental and regulatory standards
- Implement monitoring and control strategies for wastewater management
- Reduce environmental impact and operational risks associated with effluent discharge
- Promote sustainable wastewater practices within their organization

## Why Attend

- Gain expertise in refinery and petrochemical wastewater treatment processes
- Learn practical approaches to optimize treatment efficiency
- Understand regulatory requirements and compliance strategies
- Reduce environmental and operational risks associated with wastewater
- Enhance sustainability initiatives in oil and petrochemical operations

## Target Audience

This program is designed for:

- Environmental and wastewater engineers
- Operations and process engineers in oil refineries and petrochemical plants
- HSE managers and environmental compliance officers
- Laboratory and process control staff involved in wastewater management
- Consultants and professionals supporting wastewater treatment projects

## Individual Benefits

Key competencies that will be developed include:

- Knowledge of refinery and petrochemical wastewater characteristics
- Ability to design and operate advanced wastewater treatment systems
- Skills to monitor and optimize treatment processes
- Competence in ensuring regulatory compliance
- Understanding of sustainable wastewater management practices
- Problem-solving skills for operational and environmental challenges

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Effective and compliant wastewater treatment in refinery and petrochemical facilities
- Reduced environmental impact and improved sustainability
- Optimized operational efficiency in wastewater management processes
- Stronger compliance with environmental regulations and standards
- Enhanced reputation for environmental stewardship
- Implementation of best practices and continuous improvement in wastewater management

## Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of wastewater characteristics, treatment technologies, and regulatory requirements
- Case Studies – Real-world examples of refinery and petrochemical wastewater solutions
- Workshops – Hands-on exercises for process optimization and treatment system design
- Peer Exchange – Group discussions on operational challenges and solutions
- Tools – Templates for monitoring, reporting, and operational improvement

## Course Outline

Detailed 2-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Wastewater Challenges and Treatment Techniques

Module 1: Overview of Refinery and Petrochemical Wastewater (07:30 – 09:30)

- Types and characteristics of refinery and petrochemical effluents
- Common contaminants and treatment challenges
- Environmental and operational impact

Module 2: Wastewater Treatment Technologies (09:45 – 11:15)

- Physical, chemical, and biological treatment methods
- Advanced treatment solutions for complex effluents
- Comparative analysis of treatment technologies

Module 3: Design and Operational Optimization (11:30 – 01:00)

- Designing efficient treatment processes
- Monitoring and control strategies
- Process optimization for performance and cost-efficiency

Module 4: Regulatory Compliance and Safety (02:00 – 03:30)

- Environmental regulations and discharge standards
- Compliance monitoring and reporting
- Safety considerations in wastewater operations

Day 2: Implementation, Case Studies, and Sustainability Practices

- Case studies of successful wastewater treatment in refineries and petrochemical plants
- Workshops on process design, troubleshooting, and operational improvement
- Strategies for sustainable and green wastewater management
- Group discussion on challenges, solutions, and lessons learned

## Certification

Participants will receive a Certificate of Completion in Oil Refinery and Petrochemical Wastewater Treatment Solutions, validating their expertise in advanced wastewater treatment techniques, compliance management, and sustainable practices in oil and petrochemical operations.

## Why Choose MAWA Events

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### In-House / Customized Training

Interested in running this course for your team?

Please contact us:

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