TECHNICAL
EDUCATION
ACADEMY

Operational Risk Management Center

COURSE PROGRAMME

000027

HSSE010 - Waste Water Treatment

The Wastewater Treatment course is designed to introduce delegates to the principles of wastewater and solid waste treatment and management.



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Course overview

Intermediate level

Why take this course

The Wastewater Treatment course is designed to introduce delegates to the principles of wastewater and solid waste treatment and management. Delegates will learn the fundamental concepts in water and wastewater treatment technologies, hazardous solid waste disposal and management issues related to sludge treatment and disposal. This will also be combined with the process design skills related to both wastewater treatment and sewerage systems.

This course provides the overview of the fundamentals and applications of the aerobic and anaerobic biological unit processes for the treatment of industrial wastewater. You will be introduced to chemical, physical and biological processes necessary for designing and managing modern wastewater treatment plants, principles of coagulation, flocculation, sedimentation, filtration, biological treatment, solid handling, disinfection and advanced treatment processes.

Who it is for and how it helps

Technical managers, Engineers, Maintenance coordinators involved in wastewater treatment processes.

What you will learn

- Explain the aims and importance of water and wastewater treatment and discharge standards.
- Describe the way organic wastes pollute water.
- Identify and explain the main physical, chemical and biological processes for water and wastewater treatment.
- Explain and use the main design criteria for water and wastewater treatment processes.
- Outline the stages of wastewater treatment at the typical treatment facility.
- Design basic treatment processes.
- Combine the different processes appropriately.
- Develop treatment plant layouts.

Curriculum

Modules 01–08

01 Natural systems classification, significance of impurities in water and wastewater: suspended and dissolved solids, organic and inorganic, trace contaminants and pathogens.

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02 Physical methods for removing particulates: screening, sedimentation and filtration.

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03 Chemical dosing: precipitation; coagulation and flocculation processes. including basic concepts from colloid science; disinfection and chemical oxidation.

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04 Adsorption and ion exchange.

- Adsorption and ion exchange.

05 Biological processes for wastewater treatment: aerobic and anaerobic.

- Biological processes for wastewater treatment: aerobic and anaerobic.

06 Activated sludge, trickling filters and sludge digestion.

- Activated sludge, trickling filters and sludge digestion.

07 Process control strategies.

- Process control strategies.

08 Examples of flow sheets and unit operations used in treatment plants.

- Examples of flow sheets and unit operations used in treatment plants.

Curriculum

Modules 09–14

09 Sources, Types and Composition of Municipal Solid Wastes

- Sources, Types and Composition of Municipal Solid Wastes

10 Physical, Chemical and Biological Properties of Municipal Solid Waste

- Physical, Chemical and Biological Properties of Municipal Solid Waste

11 Waste Handling, Separation, Storage and Processing at Source/Collection of Solid Waste

- Waste Handling, Separation, Storage and Processing at Source/Collection of Solid Waste

12 Incineration of solid waste for energy generation

- Incineration of solid waste for energy generation

13 Thermal and biological conversion technologies for waste treatment

- Thermal and biological conversion technologies for waste treatment

14 Disposal of Solid Wastes and Residual Matter

- Disposal of Solid Wastes and Residual Matter

Pre-course requirements

- Базовое знание по очистке сточных вод

Participation and contacts

Joining the programme

Contact the Academy and quote course code 000027 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

Read the pre-course requirements in this programme before enrolling.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

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