Drinking Water Quality – Water Treatment Technology (RV-11352)

1 hour

Instructor: Jim Taube

Description

This course presents key information regarding water treatment technology of drinking water, including characteristics and capabilities of water treatment processes, source water quality, distribution system considerations, and residuals management. Technical personnel in the design, engineering, maintenance and operations areas of facilities will find this information critical to the successful operation of drinking water related facilities. This course addresses critical factors that affect health, safety, and welfare of the population being served by the water treatment system.

Intended Audience: Water Treatment and Water Distribution Operators

Objectives

After successfully completing this course, you will be able to:

- Name the various processes utilized for water treatment
- Explain the principles behind major treatment processes – coagulation, flocculation, sedimentation, flotation
- Identify the methods used for media filtration related to water treatment
- Describe the requirements for special water treatment processes – chemical, disinfection, precipitation, natural treatment

Outline

Introduction 01 minutes

- Course Overview

Water Treatment Processes 02 minutes

- Treatment Process Evaluation and Selection

Water Sources 05 minutes

- Water Sources overview

Water Quality Parameters 04 minutes

- Water Quality Parameters Overview

Terms & Definitions for Drinking Water Quality 02 minutes

Conventional Water Treatment 04 minutes

- Turbidity
- Conventional Filtration
- National Secondary Drinking Water Regulations

Water Treatment Process 07 minutes

- Overview
- Facilities for Drinking Water Treatment
- Flow Measurement

- Raw Water Pumps
- Dissolved and Suspended Particles
- Hydraulic and mechanical Mixing

Coagulation 04 minutes

- Coagulant Chemicals
- Primary Coagulants
- Synthetic Inorganic Polymers
- Coagulant Aids

Chemical Safety 03 minutes

- Safety Data Sheet
- Emergency Response Planning

Flocculation 08 minutes

- Overview
- Detention Time
- Stirring
- Types of Flocculators
- Short Circuiting

Sedimentation 08 minutes

- Overview
- Gravitational Settling
- Particle Shape
- Water Temperature
- Particle electrical Charge
- Sedimentation Basin Zones
- Sedimentation Basin Types

Filtration 11 minutes

- Impurities Removal
- Disinfection
- Dechlorination
- Ultraviolet Light

Conclusion 01 minutes