



A Non-Profit Educational Corporation

OCT ACADEMY
Class Description submittal to OESAC

Title: **Disinfection of Public Drinking Water**

New Class, or Class Renewal

CEU Award requested: **0.7 CEUs**

OVERVIEW:

Safeguarding the quality of the public's drinking water is a basic class topic for water treatment and distribution operators. This one (1) - day course focuses on the essentials of safe drinking water provision; drinking water chlorine feed and follow-up sampling both in a water plant and throughout the distribution system under the SWTR; Stage **1 & 2 D/DBPR** rules; Tier 1 Public Notice; providing and maintaining safety of drinking water by ensuring adequate treatment and distribution system integrity; and the roles and responsibilities of drinking water operators.

Technical Capacity development includes:

- gaining appreciation for the roles and responsibilities of drinking water operators.
- common non-compliance issues related to water treatment and distribution.
- common operational practices in water distribution.
- drinking water systems sampling and inspection process.

Operators will also develop a basic understanding of AWWA recommended procedures for disinfecting water mains with chlorine.

CLASS DESCRIPTION:

Areas of study include:

- Properties of chlorine
- Chlorination reactions and pH relationships (gaseous chlorine versus liquid hypochlorite)
- Chlorine chemistry and microbiology
- Breakpoint chlorination
- Combined residual vs. free residual
- Factors affecting chlorination
- Chlorination chemical reactions with water.
- Chlorination equipment
- Field and laboratory determination of residuals
- Dechlorination reactions.
- C•T concepts
- Chlorine residual testing
- Water main disinfection



TIME PRESENTATION OUTLINE:

Start Time	End Time	Instructional Time	Allotted Break Time	Chapter/Discussion/Quiz
8:00am	8:50am	50 minutes	8:50am–9:00am	History of Disinfection and regulations & Microbiology of waterborne diseases; bacteria, viruses, and protozoa
9:00am	9:50am	50 minutes	9:50am–10:00am	Breakpoint chlorination – Dosage, Demand and Residual
10:00am	10:50am	50 minutes	10:50am-11:00am	Breakpoint chlorination – Dosage, Demand and Residual continued
11:00am	12:00pm	60 minutes	12:00pm-12:30pm	Chloramines & Disinfection By-products D/DBPs
12:30pm	1:20pm	50 minutes	1:20pm-1:30pm	Gas chlorination systems & Liquid chlorine feeder systems – water main disinfection
1:30pm	2:20pm	50 minutes	2:20pm-2:30pm	Liquid chlorine feeder systems – water main disinfection continued & Chlorine Safety equipment, A, B & C kits
2:30pm	3:20pm	50 minutes	3:20pm-3:30pm	Chlorine Safety equipment, A, B & C kits continued
3:30pm	4:30pm	60 minutes		Dechlorination sulfur and non-sulfur based chemicals & 100 MC test
		420 minutes		

6 sessions of 50 minutes of instruction and 2 sessions of 60 minutes of instruction equals 420 minutes. 420 minutes equates to 7 hours of instruction divided by 10 which is 0.7 CEUs

END