



Developer and Owner – WWOTC

## **Online Course – Instructor Led** Chlorination and Disinfection Refresher

## April 14-15, 2021 (8:30 – 12:30 AST)

### **Course Objective / Description**

This course is prepared as a chlorination and disinfection refresher for skilled water and wastewater utility operators and will cover the properties of chlorine, the reason for chlorination, as well as the safe handling of gas chlorine, dry calcium hypochlorite and liquid sodium hypochlorite.

#### What will be covered:

- The history of chlorination
- Why disinfect drinking water
- Waterborne microorganisms
- Drinking water disinfection using chlorine
- Breakpoint chlorination
- Factors that affect disinfection
- Commercial forms of chlorine
- Terms used in chlorination
- Other forms of disinfection
- Dosage calculations

| Timeline    | Lesson   | Description                                | Contact Hours |
|-------------|----------|--|---------------|
| 08:00-08:30 |          | Introduction/Overview of Objectives        | 0.5           |
| 08:30-09:00 | Lesson 1 | History of Chlorination                    | 0.5           |
| 09:00-09:30 | Lesson 2 | Why Disinfect Drinking Water               | 0.5           |
| 09:30-10:00 | Lesson 3 | Waterborne Microorganisms                  | 0.5           |
| 10:00-10:15 |          | Break                                      |               |
| 10:15-11:00 | Lesson 4 | Drinking Water Disinfection Using Chlorine | 0.75          |
| 11:00-12:00 | Lesson 5 | Breakpoint Chlorination                    | 1.0           |
| 12:00-12:30 |          | Lunch                                      |               |
| 12:30-13:00 | Lesson 6 | Factors that Affect Disinfection           | 0.5           |
| 13:00-13:30 | Lesson 7 | Commercial Forms of Chlorine               | 0.5           |
| 13:30-14:00 | Lesson 8 | Terms used in Chlorination                 | 0.5           |

| 14:00-14:15 |           | Break                             |      |
|-------------|-----------|-----------------------------------|------|
| 14:15-14:45 | Lesson 9  | Other Forms of Disinfection       | 0.5  |
| 14:45-15:30 | Lesson 10 | Calculations                      | 0.75 |
| 15:30-16:00 |           | Review of Materials and then Exam | 0.5  |
|             |           | Total Instruction/Contact Time:   | 7.0  |

## Instructor: David Russell - Senior Training Specialist

CEU: 0.7

# **Chlorination and Disinfection Refresher**

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| Name:  |  |
| Company:   |  |
| Company Mailing Address                                  |  |
| City, Province:  | Postal Code:   |
| Phone:   | Email:   |
| ACWWA Membership #:<br>If no membership number is listed | WEF Membership #:  |
| Fee for AC   | WWA or WEF Members & Employees of UTILITY Members<br>Course: <u>\$345.00 + \$51.75 HST (15%) = \$396.75</u><br>Fee for Non – Members |
| Invoices will be sent to the addre                       | Course: <u>\$370.00 + \$55.50 HST (15%) = \$425.50</u><br>ess listed above.  |
| PO number to be included on the                          | e invoice  |
| Payment can be made by Visa, M<br>Card Holder's Name     | Aaster Card or cheque.   |
| Credit Card Number                                       | Expiry   |
| Signature  |  |
| Email address for credit card recei                      | pt   |
|  | Cheques should be made payable to:<br>ACWWA<br>PO Box 28141 · Dartmouth, NS · B2W 6E2<br>Phone 902-434-6002 Fax 902-435-7796         |