

# CHLORAMINES, COLORIMETERS & SAMPLE COLLECTION – THE TRIPLE PLAY WORKSHOP



**DATES:** March 16, 2018

**LOCATION:**  
Calleguas MWD  
2100 E. Olsen Road  
Thousand Oaks, CA 91360

**TIME:** 8:00 am - 4:00 pm

**PRICING:**  
\$185 for AWWA Members /  
\$285 for Non Members

## Workshop Description:

**This workshop is eligible for up to 7 contact hours.**

### Module 1 – An Introduction to Chloramines

This Module discusses the history and importance of water disinfection, and how chlorine works, including the role of pH in HOCl formation; the advantages and disadvantages of chlorine as a disinfectant, with a focus on the potential for formation of Disinfection by-Products, and the difference between the Stage 1 and Stage 2 DBP Rule; what chloramine is, and how it works, including the advantages and disadvantages of chloramine as a disinfectant; chloramine chemistry, including the molecules that can form, and an intensive step-by-step review of the chloramine curve; a description of the chloramine-related species that form, and how they act as the chloramine curve progresses; and general concerns regarding chloramine use, including history of safe use, chloramine and dialysis, effects on aquatic life, and nitrification.



### Module 2 – Water Sampling

This class is intended to provide the student with an understanding of sampling as related to State and Federal regulations and consumer protection; provide a demonstration of various types of sample collection; provide guidance regarding the preparation for sampling, as well as legal considerations associated with sampling Chain of Custody; and provide definitions of terms particular to the sampling activity. This course includes a practical where students collect samples in a controlled environment, allowing them to refine sampling skills under supervision.

### Module 3 – Use and Care of the Hach PCII



This course introduces students to use of the Hach PCII, and can be especially useful for students who have not previously used the device, or who use it infrequently. It is also an excellent refresher course for the experienced Hach PCII user, providing a lecture and practical that encompasses the details of both low-range and high-range application, and how to interpret colorimeter reads in a chloraminated system.

Additionally, students are provided instruction regarding the care of their colorimeter, including a review of colorimeter cell and device maintenance, and a discussion regarding various physical and chemical interferences.

**Please bring a colorimeter to class with you for the practical portion.**

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## Registration Form

Thousand Oaks – March 16, 2018  
AWWA Member \$185 / Non-member \$285

Attendee Name: \_\_\_\_\_

Attendee Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Cell Phone: \_\_\_\_\_ Home Phone: \_\_\_\_\_

Attendee E-mail: \_\_\_\_\_

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Company Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

AWWA Member #: \_\_\_\_\_

### **\*Registration will not be processed without PAYMENT**

Make checks payable, in U.S. funds, to CA-NV AWWA

Check # \_\_\_\_\_ PO # \_\_\_\_\_  
(Must be accompanied by a physical copy of the Purchase Order)

**Payment Method: Credit Card: Visa \_\_\_\_\_ MC \_\_\_\_\_ AMEX \_\_\_\_\_**

Name on Card: \_\_\_\_\_

Credit Card # \_\_\_\_\_

Exp. Date: \_\_\_\_\_ Billing Zip Code: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

Total Amount Due: \_\_\_\_\_

If you need a copy of your receipt, please enter e-mail address:

E-mail \_\_\_\_\_

**To register or cancel your registration at any time, please contact Shobhana at 909.291.2117.**

Please fill out this form completely and mail to:

**CA-NV Section AWWA  
10435 Ashford St., 2nd Floor  
Rancho Cucamonga, CA 91730**

Or you can fax it to **(909) 291-2107** (secure fax line). Or email it to **[schickarmane@ca-nv-awwa.org](mailto:schickarmane@ca-nv-awwa.org)**

## CONTACT HOURS

All Contact Hours are emailed. In order to receive your Contact Hours, you must include your email address on this form. For attendance verification you must sign in and out. You must be in attendance for the full time in order to be awarded full credit. If your attendance cannot be verified you will not be issued Contact Hours. The Contact Hours advertised by the CA-NV AWWA are only an estimate, final hours are determined upon an audit of your record. It can take up to 30 days to process and issue your Contact Hour certificates.

## CA-NV AWWA CANCELLATION POLICY

Requests for refunds and requests for transfers must be made in writing and are subject to the following conditions: Full refund of fee paid (minus \$50.00 handling fee) will be issued for cancellations received more than two weeks prior to class date. All fees are non-refundable thereafter. Transfers are based on the availability. No transfer requests will be authorized within 72 hours prior to the class date.