



## Water Treatment Review (8 hours) Course Syllabus

### Purpose

This course covers information relevant to water treatment operators and is designed to be used for continuing education.

### Topics

Source Water  
Coagulation and Flocculation  
Sedimentation  
Filtration  
Disinfection

### CEUs (Contact Hours)

Upon completion of this course, you will receive a certificate for 0.8 CEUs (8 contact hours).

### Completion Requirements

In order to receive [IACET CEU](#) credit for this course, you must complete the following:

- Complete each individual lesson module by watching the video lecture, completing the lesson handout, and passing the lesson quiz.

Once you have completed all of these elements, your course completion certificate will be automatically placed into your learning account for printing/downloading. It will remain in your learning account even after your course access has expired.

### Learning Objectives

#### Source Water Review

Upon completion of this lesson the student will be able to:

- Define source water vocabulary
- Discuss proper water source evaluation
- Recall the different types of source water contaminants
- Explain the hydrologic cycle
- Distinguish the different types of public water systems
- Describe the main objectives of water treatment
- Formulate solutions to water quality problems

#### Coagulation and Flocculation Review

Upon completion of this lesson the student will be able to:

- Define coagulation and flocculation vocabulary words
- Discuss what is considered “Conventional Treatment”
- Express coagulation chemistry basics
- Discuss the purpose of flash mixers and define the different types of flash mixers
- Recall how a Streaming Current Meter operates
- Discuss the principles of enhanced coagulation

- Apply jar testing principles
- Relate what operator actions are taken during changing plant conditions

#### Sedimentation Review

Upon completion of this lesson the student will be able to:

- Define sedimentation vocabulary words
- Recall the size ranges for various particles
- Describe the different sedimentation zones
- Identify the different types of sedimentation basins
- Analyze the expected performance of the sedimentation process
- Relate what operator actions are taken during changing plant conditions

#### Filtration Review

Upon completion of this lesson the student will be able to:

- Define filtration vocabulary
- Recall the factors that affect the filtration process
- Describe the different filtering mechanisms
- Identify the different types of filters
- Describe how filter media is classified
- Relate the required removal for viruses and Giardia
- Discuss the instrumentation used to monitor filters

#### Disinfection Review

Upon completion of this lesson the student will be able to:

- Define disinfection vocabulary
- Recall the factors influencing disinfection
- Describe the agents of disinfection
- Identify the properties of chlorine gas
- Describe the relationship between pH and chlorine species
- Describe breakpoint chlorination
- Discuss the pros and cons of alternative disinfectants
- Relate chlorine safety principles

### **Support**

Students can contact our student support staff with any course-related, content-related, or technology-related inquiries.

Our office hours are Monday-Thursday, 9-5 CT, and Friday 9-12 CT.

### **Contact Info**

Phone Number: (661) 874-1655

General Course Inquiries: [Info@americanwatercollege.org](mailto:Info@americanwatercollege.org)