



<b>Course Name</b>	<b>Introduction to Water Technology</b>
<b>Credit Hours</b>	2 Hours
<b>Instructor(s)</b>	Ralph Stevens
<b>Fee</b>	\$29.00

### **Course Description**

This course introduces operators to the hydrologic cycle and its effects on the structure and functions of water and wastewater systems. From there, we discuss water collection, treatment, and distribution, as well as the physical, chemical, and biological properties of water.

### **Learning Objectives**

After completing this course, the licensee should be able to:

- Name and define the basic six processes that make the hydrologic cycle a continuous process.
- Identify the groups that use municipal water and how each can conserve water through careful use.
- Identify different methods of water treatment and the stages of each.
- Name the causes and sources of pollution.
- Measure the properties of water using a variety of instruments.
- Relate varying conditions of pH, hardness, dissolved oxygen, etc., of water to establish quality.
- Identify procedures used to kill or inactivate common organisms found in water.

### **Equipment Requirements**

You must have an active, working internet connection to access this course online, as well as a platform to access the internet, such as a computer, tablet, or phone. All popular web browsers are supported, including Google Chrome, Mozilla Firefox, Safari, and Opera. No specialized software, speaker, microphone, or web camera is required.

### **Schedule and Location**

This course is available online at any time at [www.AYPOTech.com](http://www.AYPOTech.com). Upon enrolling in the course, students will have access for 365 days or until the agency-issued course expiration date, whichever comes first. After the access expiration date, the student may re-activate their course if the course approval has not expired. If they do not re-activate, the course will be removed from the student's account and any progress in the course will be lost. Before the access expiration

date, the student may sign in and out of the course as many times as needed to complete the course.

## **Student Support**

Both general and technical support is available to the student before, during, and after taking the course online. Students have access to general customer support via phone, chat, and email. Students have access to the course instructor via email. All questions, concerns, and comments received will be responded to within one business day.

## **Participation/Interactivity Verification**

Timed Logs - Per our company's record retention policy, each student's every log-in, log-out, and lesson/assessment completion time is tracked and retained as part of the student record.

Review Questions - After each section of text, students must answer a review question. Students cannot progress in the course until the question between sections has been answered correctly.

Global Timer - Students will not get credit until they spend a minimum of 120 active minutes total in the course.

## **Identity Verification**

Unique Username/Password - Each student that wants to complete a training course with us must create an account by registering a unique personal email address and password. The student must enter this unique identifier every time they take a break from the course.

## **Assessment Details**

Review Questions - The student must successfully answer all review questions between sections to get credit for the course. If their first response is incorrect, students will have to try again until they choose the correct answer.

## Introduction to Water Technology Timed Syllabus

Section	Topic	Questions	Minutes*
	<b>Water: The Basic Resource</b>		
1	The Water Cycle	1	2.1
2	Precipitation	1	2.2
3	Surface Runoff	1	2.1
4	Groundwater	3	5.0
5	Lots of Water, but...	1	2.6
6	Water Use	1	2.9
7	Industrial Use	1	1.6
8	Agricultural Use and Waste	1	2.4
9	Beginning of Waterworks	1	3.1
10	Centuries of Neglect	1	2.3
11	Water Treatment - Beginning to Today	1	3.1
	<b>Water Collection, Treatment, and Distribution</b>		
12	Collecting Surface and Ground Water	1	3.4
13	Transmission of Water	1	2.3
14	Why Treat the Supply Water?	1	2.8
15	Types of Treatment	1	1.9
16	Treatment in the Treatment Plant and Distribution	2	7.0
17	Collecting Wastewater	1	1.9
18	Treating Wastewater	1	1.8
19	Primary Treatment	1	1.9
20	Secondary Treatment	1	2.0
21	Tertiary Treatment	1	1.6
	<b>Physical Properties of Water</b>		
22	Basic Properties of Water	1	2.0
23	The Color of Water	1	1.9
24	Measuring Water Color	2	3.7
25	Taste and Odor of Water	2	6.5
26	The Temperature of Water	1	2.0
27	Solids in Water	1	1.8
28	Total Solids in Water	1	2.5
29	Volatile and Fixed Solids	1	1.6
30	Turbidity and Suspended Matter	2	3.6
31	Electrical Conductivity	1	3.1
	<b>Chemical Properties of Water</b>		
32	Atoms and Molecules	2	5.4
33	Acids, Bases, and Salts	1	3.2
34	The Ionization of Water	3	5.4
35	Alkalinity	1	2.3
36	Acidity	1	1.6
37	Hardness of Water	1	3.1
38	Other Unwanted Chemicals	1	3.3

39	Dissolved Oxygen	1	2.4
	<b>Biological Properties of Water</b>		
40	Pathogenicity	1	2.4
41	Disinfection	1	1.4
42	Stabilization of Organic Matter	1	1.8
43	Biochemical Oxygen Demand	1	2.1
44	Factors Affecting Growth	3	5.9
45	The Food Chain and Living Things	1	1.8
46	Bacteria	1	2.6
47	Environmental Classifications of Bacteria	1	2.3
48	Bacteria in Treatment Plants	1	1.3
49	Viruses	1	1.9
50	Algae	1	2.7
51	Protozoa and Higher Organisms	1	2.7
	<b>Totals:</b>	<b>62</b>	<b>140.3</b>
	<b>Student Minimum Time Required:</b>		<b>120</b>