

New York Rural Water Association Online Course Standard Course Descriptions



Basic Water Works

Course Details:

Price: \$225.00

NYSDOH Hours 10

This course introduces the student to the relationship between potable drinking water and health, and the important role the water operator plays in maintaining a safe and ample supply of drinking water. An overall view of the water cycle is presented together with a general description of the responsibilities of water utility personnel and the need for regulation of the water industry to protect the public health, safety, and welfare. A general introduction to the source, characteristics, production, treatment, disinfection, storage, and distribution of potable water is presented, together with instructions on general hazards and safety practices. Basic water chemistry and math skills are developed and applied to the water industry.

Course Modules:

- | | |
|-----------------------------|---------------------------------|
| 1. Introduction | 2. Operation of a Water Utility |
| 3. Water Characteristics | 4. Water Quality Standards |
| 5. Disinfection | 6. Ground Water and Wells |
| 7. Surface Water Production | 8. Distribution |
| 9. Safety | |

Pump and Motor Maintenance

Course Details:

Price: \$225.00

NYSDOH Hours 10

NYSDEC Hours 10

This course contains information on developing a maintenance program, electric motors and motor controls, centrifugal pump mechanics and hydraulics, lubrication and bearings, compression packing, mechanical seals, positive displacement pumps and other types of pumps, and safety around pumps and motors.

Course Modules:

- | | |
|-------------------------------------|---|
| 1. Developing a Maintenance Program | 2. Prime Movers; Electric Motors and Motor Controls |
| 3. Centrifugal Pump Mechanics | 4. Centrifugal Pump Hydraulics |
| 5. Lubrication | 6. Bearings |
| 7. Compression Packing | 8. Mechanical Seals |
| 9. Positive Displacement Pumps | 10. Special Pumping Units |
| 11. Water Utilities Safety | |

Chlorinator Systems and Chemical Handling

Course Details:

Price: \$225.00

NYSDOH Hours 10

Course covers the properties of chlorine, its purpose in the public water system, terminology, dosage calculations, cylinders, maintenance, and troubleshooting common problems.

Course Modules:

- | | |
|--|-------------------------------------|
| 1. History of Chlorination | 2. Chemical Handling and Safety |
| 3. Physical and Chemical Properties of Disinfectants | 4. Process Applications |
| 5. System Types | 6. Injectors/Ejectors |
| 7. Containers and Connections | 8. Gas Chlorinators and Switchovers |
| 9. Maintenance and Troubleshooting | 10. Chlorination Math |

Water Utility Safety

Course Details:

Price: \$225.00

NYSDOH Hours 10

NYSDEC Hours 10

This is a comprehensive safety course for water utility workers, that includes an introduction to safety concepts and programs.

Course Modules:

- | | |
|---------------------------|---|
| 1. Introduction to Safety | 2. Personal Protective Equipment |
| 3. Back Safety | 4. Hazard Communication and Chemical Safety |
| 5. Laboratory Safety | 6. Biological Hazards |
| 7. Confined Space Safety | 8. Emergency Response |
| 9. Electrical Safety | 10. Trench Safety |
| 11. Work Zone Safety | |

Water Utility Calculations

Course Details:

Price: \$225.00

NYSDOH Hours 10

NYSDEC Hours 10

This course was written for students who feel they can't do math or math is too hard. Using the "use it or lose it" philosophy, each concept builds on previous concepts. Realizing that math must be used on a regular basis to retain it, the course offers many practice problems a water or wastewater operator will experience regularly.

Course Modules:

- | | |
|-------------------------------------|---|
| 1. Introduction | 2. Conversions |
| 3. Surface Area | 4. Volumes |
| 5. Solving for the Unknown | 6. Solving Word Problems |
| 7. Velocity | 8. Flow |
| 9. Detention Time | 10. Loading Calculations |
| 11. Efficiency/Percent Calculations | 12. Conversion Factors, Equations, and Formulas |

Basic Environmental Chemistry

Course Details:

Price: \$225.00

NYSDOH Hours 10

This course is a comprehensive water chemistry course and includes fundamentals of atomic structure, dilution calculations, wastewater chemistry, coagulation, softening and BOD, and chlorination, DBP and corrosion control. It includes non-scored comprehension checks throughout the modules so the student can test their level of understanding before proceeding to the scored module quiz.

Course Modules:

- | | |
|--|-----------------------------------|
| 1. Basic Chemistry | 2. Atomic/Molecular Weight |
| 3. Dilution Calculations | 4. Wastewater Chemistry |
| 5. Water/Wastewater Treatment | 6. Coagulation, Softening and BOD |
| 7. Chlorination, DBP and Corrosion Control | |

Corrosion Control Treatment Optimization

Course Details:

Price: \$225.00

NYSDOH Hours 10

Because of new or upcoming regulations, utilities have been changing treatment or adding new chemicals in an effort to meet these requirements. After treatment changes, unintended consequences have occurred where systems that normally do not have corrosion issues are experiencing lead and copper exceedances. This course will focus on the basics of corrosion control treatment optimization and provide the latest information on how to assess your system and avoid these unintended exceedances. It is full of useful images, charts and tables. A new course written by Rich Giani of District of Columbia Water and Sewer Authority, it also has a new look and improved interactivity.

Course Modules:

1. Lead and Copper Rule – Overview
2. Primary Water Quality Parameters
3. Secondary Water Quality Parameters – Part 1
4. Secondary Water Quality Parameters – Part 2
5. Corrosion Control Treatment 1 - Passivation –
pH Alkalinity Adjustment
6. Corrosion Control Treatment 2 - Passivation –
pH/Alkalinity Adjustment
7. Corrosion Control Treatment 3 – Passivation –
Phosphate
8. Corrosion Control Operations