



72nd SHORT COURSES FOR WATER & WASTEWATER OPERATORS

June 7 - 11, 2021

HELD

VIRTUAL

*Sponsored
By*

Chesapeake Section, American Water Works Association (CSAWWA)

Chesapeake Water Environment Association (CWEA)

*Water and Waste Operators Association of
Maryland, Delaware and the District of Columbia (WWOA)*

72nd SHORT COURSE PROGRAM & SCHEDULE

Due to the Covid-19 pandemic, this year's Short Course will be held virtual. The committee recognizes the additional need for training, given the problems caused by the pandemic. The actual number of courses offered this year has been reduced as has the overall number of training hours however the Committee feels that we are offering training available for all MDE certification categories.

The cost to attend this year's Short Courses has been reduced as a courtesy to the dedicated frontline operators and superintendents who ensure their customers have safe drinking water each day, and that wastewater is returned to the environment cleaner than the body of water being sent to.

Monday, June 7 through Thursday, June 10, 2021

9:00 a.m. to Noon Training Sessions

Noon to 1:00 p.m. Break

1:00 to 4:00 p.m. Training Sessions

Friday, June 11, 2021

9:00 to Noon Final Short Courses Exams

Purpose

The Short Courses for Water and Wastewater Operators offer training, information, and insights that will enable the water and wastewater systems personnel to operate their facilities in a more effective, safe, and economical manner. The courses offer new ideas and serve as a "refresher" for existing operators.

Questions/Problems

If there are any questions not answered in this brochure or problems encountered prior to registration, you can contact Clark Howells at Clark.Howells@Baltimorecity.gov, or Rachel Ellis at info@wwoShortCourses.org. If you have any questions/problems during the week please call Short Courses Chairperson, Clark Howells at (410) 206-3804 or email at Clark.Howells@Baltimorecity.gov.

Non-Discrimination Statement

The WWO Short Courses Committee does not discriminate in its educational programs or activities on the basis of race, color, national or ethnic origin, ancestry, age, religion or religious creed, disability or handicap, sex or gender. The Short Courses will comply with state and federal laws such as M.G.L.c.151B, Title IX, Title VI and Title VII of the Civil Rights Acts, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination in Employment Act, and other similar laws that prohibit discrimination.

Unlawful discrimination has no place at the Short Courses and offends the organization's core values which include a commitment to equal opportunity and inclusion. All Short Courses Committee Members instructors, students, and staff members are expected to join with and uphold this commitment.

Important information for all attendees!

Because this year's courses are being held virtually, it is vital that all attendees have a valid email address. Emails will be sent to all registrants with links to their courses and so attendees may test their connections in advance of the actual training, resulting in less conflict at class time. Class handouts will be forwarded prior to the training event.

*** Attendees must have a web cam so instructors can verify students are present during class. Those not present will not receive attendance credit for that portion of the training event. Code words will be periodically sent to students who must then respond via the chat function.**

Disclaimer

This year, due to Covid, several courses have been combined. The intent of combining courses is to provide training for those persons holding Operator-in-Training certificates as well as those persons who are already certified and are seeking recertification credits.

Attendance at these classes in no way implies a guarantee that those participating in the sessions are assured of passing the State Certification exam. However, over the long history of the Short Courses, MDE results indicate that our courses have proven helpful in preparing for the exams.

***Maryland State Operator Certification Exam**

Maryland State certification exams are not part of the actual Short Courses and are separate from the final Short Courses exams. Payment to attend the Short Courses does not include the cost, nor entitle you to take the Maryland Certification Exam! *You must apply separately to the Maryland Board of Waterworks and Waste Systems Operators to sit for a Maryland Certification Exam.

The exam application form can be found at:

<http://mde.maryland.gov/programs/Permits/EnvironmentalBoards/Documents/MDE-WMA-BWW-EXM.pdf>

*Important change this year: Due to social gathering limitations, the Maryland Board of Water and Waste Systems Operators has set up six exams sessions across the State for those attending Short Courses. The **number of seats is limited**, so it is suggested that you **register early**. To register for your State Certification exam, or for answers to questions regarding the exams, please email Martin Fuhr at martin.fuhr@maryland.gov or call at 443-908-0441.

June 11, 2021

Two exams sessions: 9:00 a.m. – Noon & 1:00 – 4:00 p.m. to be held at the
Wharves of Choptank
3 Crouse Park Lane, Denton, Maryland 21629
Applications are due by May 7, 2021

June 14, 2021

Two exam sessions: 9:00 a.m. – Noon & 1:00 – 4:00 p.m. to be held at the
Maryland Department of the Environment
1800 Washington Boulevard, Baltimore, Maryland 21230
Applications Due by May 7, 2021

June 15, 2021

Two exam sessions: 9:00 a.m. – Noon & 1:00 – 4:00 p.m. to be held at the
Hancock Town Hall and Community Center
126 West High Street, Hancock, Maryland 21750
Applications Due by May 7, 2021

Information regarding additional exams can be found at:

https://mde.maryland.gov/programs/Permits/EnvironmentalBoards/Documents/BWW-2021_ExamSchedule.pdf .

Mail completed applications to:

Board of Waterworks & Waste Systems Operators
P.O. Box 2057
Baltimore, MD 21203

Sponsorship/Scholarships

The Annual Water and Wastewater Operators Short Courses are sponsored by the Short Courses Committee, a group made up of representatives from the Water and Wastewater Operators of Maryland, Delaware, and the District of Columbia (WWOA), the Chesapeake Section, American Water Works Association (CSAWWA), and the Chesapeake Water Environment Association (CWEA). Scholarships to attend the Short Courses are offered through each organization. Members of each organization are eligible per the selection process of the organization. For additional information, please see the following websites:

CSAWWA Short Courses Scholarship - www.csawwa.org

WWOA Short Courses Scholarship – www.wwoa.net

CWEA/Stanley Kappe Short Courses Scholarship – www.chesapeakewea.org

This training effort is sponsored by the professional membership organizations and the employers of the water and wastewater operating professionals. It is a volunteer organization. Should you wish to become a member please contact one of the Short Courses Staff.

Conduct of Participants

Throughout the history of the Short Courses most participants have conducted themselves in a most reasonable manner and are a credit to our profession. This is a reminder that all participants will act responsibly. Undesirable conduct will not be tolerated and will result in your removal from the video feed without refund. Notification to your employer and the cause for removal will follow.

Attendance and Training Credit Hours Earned

The policy of the Short Courses Committee is that a student must attend at least 80% of the training (Short Courses final exams included in the total time). All courses have been approved by the Maryland Board of Waterworks and Waste System Operators. Also, 80% or better attendance along with a passing grade on the final examination, results in 1.5 times the full attendance credit. Attendees with less than 80% attendance or superintendent attendees will receive a certificate of attendance with the actual hours attended. The Short Courses Committee does not submit individual classes for TRE credits with the exception of the Superintendent Course. Attendees have the option to submit classes for individual approval.

Delaware Operator License Holders

Certified Delaware Operators can submit MDE approved courses for credit with Delaware.

Registration

This year's registration begins on April 1, 2021 and ends at midnight on May 31, 2021.

Short Courses registration is now PAPERLESS! **Mail-in registration will NOT be accepted.**

How to Register:

1. Gather all required information for each attendee being registered:
 - a. Membership status (none, CSAWWA, CWEA, WWOA)
 - b. Membership # (if applicable)
 - c. Scholarship Winner (yes/no)
 - d. Attendee information: First Name, Last Name, Email Address, Phone #,
 - e. Organization/Company Name, Address
 - f. Course selection (Water Treatment, Water Distribution, Wastewater Treatment, Wastewater Treatment, Wastewater Collection, or Superintendent)
 - g. Connect to our online registration system by visiting <https://wwoshortcourses.regfox.com/2021-wwo-short-courses> or go through the Short Courses website at www.WWOShortCourses.org
 - h. Complete individual or group registration(s)
 - i. Pay – see price tables below. Pay online using credit/debit card. Note: you can register a group of attendees using one credit card.
Cancellations will be assessed a fee of \$25.00. No refunds will be issued May 31 – June 6, 2021.
 - j. Print your invoice as **No invoice will be mailed to you!**

Course Registration

<i>Operators – per week only</i>	<i>Through May 3, 2021</i>	<i>After May 3, 2021</i>
<i>Early Bird - Member</i>	<i>\$60</i>	<i>\$80</i>
<i>Early Bird – Nonmember</i>	<i>\$80</i>	<i>\$100</i>
<i>Superintendent – per day only</i>	<i>Through May 3, 2021</i>	<i>After May 3, 2021</i>
<i>Early Bird - Member</i>	<i>\$15</i>	<i>\$20</i>
<i>Early Bird – Nonmember</i>	<i>\$20</i>	<i>\$25</i>

*** Registration ends at midnight on May 31, 2021.**

SESSION LISTINGS

Water Treatment Course

The Water Treatment course is designed for those who operate plants with chlorination, pH control, flocculation, fluoridation, filtration, and iron removal utilizing ion exchange or contact oxidation processes (Class 3): and chlorination, pH control, fluoridation, aeration, coagulation, sedimentation, and filtration for both surface water treatment and complex iron removal (Class 4). This course has been approved for Maryland TRE credits (#6921-21-3, Process, Ops WT All, Supers n/a).

MONDAY

- 9 a.m. – Noon **Chlorination Technology** – Instructor, Terry Bradley – City of Bowie
This session will cover the use and safe handling of chlorine. Included in this discussion will be waterborne diseases, water-chlorine chemistry, disinfection methods, and operational factors that affect the disinfection process. Also included will be inspection of equipment, personal safety, health precautions, and emergency procedures.
- Noon – 1:00 p.m. **BREAK**
- 1:00 – 4:00 p.m. **Coagulation, Flocculation & Sedimentation** – Instructors, Scott Harmon – Maryland Rural Water.
Session will cover the first three steps of conventional water treatment process; including rapid mixing, types of flocculation, and sedimentation will be discussed.

TUESDAY

- 9 a.m. – Noon **Applied Mathematics** – Instructor, Scott Harmon – Maryland Rural Water.
This session will focus on basic mathematics and applications fundamental to the water treatment. Upon completion of this course, personnel should be able to perform calculations needed to verify various plant processes. Examples include chemical dosing, detention time, pressure calculations, backwash flow rates, and temperature conversions.
- Noon – 1:00 p.m. **BREAK**
- 1:00 – 4:00 p.m. **Basic Electricity & Troubleshooting for Water/Wastewater Technicians.** – Instructor, Augustus Davies – WSSC Water
This course starts with an overview of electrical, instrumentation, and mechanical symbols, components, and functions. Electrical quantities, including current, resistance, voltage, and power, are discussed in terms of definition, units, measurements, and application in ladder diagrams. Overview of industrial control components and their schematic symbols commonly used in water and wastewater industries to control pumps and motors are discussed. This course will also review logic gate principles used in schematic and relay ladder logic, including the OR gates, AND gates, and XOR gates. Finally, attendees will gain troubleshooting skills and knowledge to solve electrical, mechanical, fluid flow, and P&ID related issues.

WEDNESDAY

- 9:00 a.m. – Noon **Water Treatment Processes** – Instructor, Perry Violet - WSSC Water
This session will cover various water treatment processes including coagulation, sedimentation, disinfection, fluoridation, iron and manganese removal, softening, taste and odor control, and corrosion control. Water sources, chemicals used in water treatment and plant operations will also be discussed.
- Noon – 1:00 p.m. **BREAK**

1:00 – 4:00 p.m. **Water Examination Review** – Instructors, Dinesh Bahadursingh, Robert Nally, and Jay Price – WSSC Water. This session is designed to review topics that may help those taking the State examinations.

THURSDAY

9:00 a.m. – Noon **Distribution Systems** – Instructor, Billy Dove – City of Baltimore DPW
The class will discuss water distribution systems. Among the topics discussed will be various types of water storage, hydraulic concepts of pressure and force, pressure reducing valves, booster pumps, and the importance of tank turnover, chlorination, and disinfection byproducts.

Noon – 1:00 p.m. **BREAK**

1:00 – 4:00 p.m. **Water Examination Review** – Instructors, Dinesh Bahadursingh, Robert Nally, and Jay Price – WSSC Water. This session is designed to review topics that may help those taking the State examinations.

FRIDAY

9:00 a.m. – Noon **Final Short Course Exam**

Water Distribution Course

The Water Distribution Systems Courses are designed for those who operate and maintain a water distribution system. They are for both the beginner and seasoned operator and will cover basic and advanced concepts. This course has been approved for Maryland TRE credits (#6923-21-3, Non-Process, Ops WD, WT, Supers n/a).

MONDAY

9:00 – 9:30 a.m. **Orientation** – Course Coordinator, David Wilkins – WSSC Water
An overview of the Water Distribution program will be presented, and course objective discussed, and TRE requirements will be discussed.

9:30 a.m. – Noon **Safety** – Michael Lewis – WSSC Water
The purpose of this course is to refresh and/or improve your safety skills. This course will emphasize construction safety. Topics will include trenching safety and Confine Space.

Noon – 1:00 p.m. **BREAK**

1:00 – 4:00 p.m. **Water Disinfection** – Instructor, Perry Violet – WSSC Water
The purpose of this Disinfection Strategies class is to provide the attendee with some disinfection strategies used in the water and wastewater industries. It will explain some physical and chemical disinfection strategies used in the water treatment and the effects on the water distribution system. It will also discuss advantages and disadvantages of the various treatment techniques as well as the benefits of multiple disinfection strategies approach.

TUESDAY

- 9:00 a.m. – Noon **Math Skills** – Instructor, Wanda Ketner – WSSC Water
The purpose of this course is to refresh and/or improve your math skills in the area of distribution math as it relates to water calculations. You will learn how to compare ratios and proportion, solve for the unknown, and explore liner measurements, area and volume measurements.
- Noon – 1:00 p.m. **BREAK**
- 1:00 – 4:00p.m. **Math Skills** – Instructor, Wanda Ketner – WSSC Water
The purpose of this course is to refresh and/or improve your math skills in the area of distribution math as it relates to water calculations. You will learn how to compare ratios and proportion, solve for the unknown, and explore liner measurements, area and volume measurements.

WEDNESDAY

- 9:00 a.m. – Noon **Centrifugal Pumps and Distribution Systems** – Instructor, Billy Dove – Baltimore City DPW
This class will discuss water distribution systems. Among the topics discussed will be various types of water storage, hydraulic concepts of pressure and force, pressure reducing valves, booster pumps, the importance of tank turnover, chlorination, and disinfection byproducts, and routine maintenance.
- Noon – 1:00 p.m. **BREAK**
- 1:00 – 4:00 p.m. **Centrifugal Pumps and Distribution Systems** – Instructor, Billy Dove – Baltimore City DPW
This class will discuss water distribution systems. Among the topics discussed will be various types of water storage, hydraulic concepts of pressure and force, pressure reducing valves, booster pumps, the importance of tank turnover, chlorination, and disinfection byproducts, and routine maintenance.

THURSDAY

- 9:00 a.m. – Noon **Valves and Hydrants** - Instructors, Mark Snyder - Mueller Co. & Pat Burke - Ferguson Waterworks
This class will discuss water distribution systems. Among the topics discussed will be various types of water storage, hydraulic concepts of pressure and force, pressure reducing valves, booster pumps, the importance of tank turnover, chlorination, and disinfection byproducts, and routine maintenance.
- Noon – 1:00 p.m. **BREAK**
- 1:00 – 4:00 p.m. **Valves and Hydrants** – Instructors, Mark Snyder - Mueller Co. & Pat Burke - Ferguson Waterworks This class will discuss water distribution systems. Among the topics discussed will be various types of water storage, hydraulic concepts of pressure and force, pressure reducing

valves, booster pumps, the importance of tank turnover, chlorination, and disinfection byproducts, and routine maintenance.

FRIDAY

9:00 a.m. – Noon **Final Short Course Exam**

Wastewater Treatment Course

The course is designed for the Operator-In-Training with basic wastewater skills. The operator taking this course will generally have one to three years of operating experience. Information covered in this session should be helpful with some parts of the certification exams, but in no way assures one of passing. This course will make use of instructor handouts and note taking by the attendee. This course has been approved for Maryland TRE credits (#6922-21-3, Process, Ops WWT & IWW, Supers n/a).

Monday

9:00 a.m. - Noon **Preliminary and Primary Treatment** – Instructor, Monty Simon JMT
This session will focus on the need for adequate preliminary and primary treatment of waste water to remove inert materials such as rags grit and grease flowing into or received in waste treatment facilities flow measurement and removal of settleable suspended solids and the consequences of failure to do so.

Noon – 1:00 pm **BREAK**

1:00 - 4:00 p.m. **Chemicals** - Instructor, Andrew Rupprecht - Premier Magnesia
This session will focus on the different chemicals and chemistries typically used in the treatment of wastewater. Pros and Cons of different chemicals and how using chemicals in one process can impact the associated processes will be discussed. Application dosages and locations will be reviewed.

TUESDAY

9:00 a.m. – Noon **An In-Depth Look at ENR** – Instructor, Marty Johnson – WSSC Water
This 2-day course is designed to give the operator highly-detailed training on the biology and chemistry behind Enhanced Nutrient Removal. Operation and control of various treatment plant processes will be discussed. Training will also include diagnosing the plant performance and optimization through monitoring, testing, equipment changes, and chemical addition. Interpretation of data and operational problems/remedies will also be presented.

Noon – 1:00 p.m. **BREAK**

1:00 - 4:00 p.m. **An In-Depth Look at ENR (continued)** – Instructor, Marty Johnson – WSSC Water

WEDNESDAY

9:00 a.m. – Noon **An In-Depth Look at ENR (continued)** – Instructor, Marty Johnson – WSSC Water

- Noon – 1:00 p.m. **BREAK**
- 1:00 - 4:00 p.m. **An In-Depth Look at ENR (continued)** – Instructor, Marty Johnson – WSSC Water

Thursday

- 9:00 a.m. - Noon **Pumps** – Instructor, John Weis - MM Engineering
The understanding of pumps and moving fluids through water and waste water treatment plant is essential. This session will discuss the various types of pumps used as well as routine maintenance and troubleshooting, what causes cavitation and how to recognize and solve it.

- Noon – 1:00 p.m. **BREAK**

- 1:00 - 4:00 p.m. **Sludge Thickening and Digestion** – Instructor, Maia Tatenclaux- RK&K
Aerobic and Anaerobic digestion of wastewater sludge will be discussed, including the advantages and disadvantages of each process, the necessity of pre-thickening of sludge in preparation for digestion and the various methods and equipment used will also be covered.

Friday

- 9:00 a.m. – Noon Final Short Course Exam
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Wastewater Collection Systems Course

The Wastewater Collection Systems Course is designed for those who operate and maintain a wastewater collection system. It is for both the beginner and seasoned operator and will cover basic and advanced concepts. This course has been approved for Maryland TRE credits (#6924-21-3, Non-Process, Ops WWT, WWC, IWW, Supers n/a).

MONDAY

- 9:00 – 9:30 a.m. **Overview** – Course Coordinator, Wayne E. Reed, Army Corps of Engineers, Washington Aqueduct. An overview of the wastewater collection program will be presented, with course objectives and TRE requirements being discussed.
- 9:30 - 10:15 a.m. **Force Main Inspection and Assessment** - Instructor, To Be Determined (TBD)
The presentation will cover the risk-based approach for the evaluation of wastewater force mains using non-destructive techniques and technologies in addition to advanced analytical methods. These techniques have been used by numerous force main owners throughout North America including local utilities. Case studies and lessons learned will be presented.
- 10:25 – 11:10 a.m. **Manhole Rehab** – Instructor, Ian Moore, Exeter Supply,
Attendees will learn the significance of manhole frame – chimney leakage, other manhole leakage sources and how to identify them. Costs associated with treating excess flows, maintenance and other potential problems also will be covered. A variety of repair methods will be discussed, including

the most recent technologies to enter the industry. Industry standards covering design life, product performance and acceptance testing will be reviewed to help ensure a successful manhole rehabilitation project.

- 11:10 a.m. – Noon **Collection System Basic Hydraulics** – Instructor, Jeff Pelletier – MWH Americas
Provide an overview of basic hydraulic principles that apply to gravity sewer flows as well as to pressure flows and pumping stations. For gravity systems, Manning’s Equation will be discussed and for pressure system’s, Bernoulli’s Principle will be explained. Example problems that require the application of these principles will be solved during the class.
- 12:00 – 1:00 p.m. **BREAK**
- 1:00 – 1:45 p.m. **Flow Monitoring** – Instructor, Jessica Shiao – WSSC
Elements of open channel flow measurements (area and velocity, flumes, weirs) and flows through force mains (magnetic meters, pumps running timers) will be presented as a basis to establish baseline infiltration and peak wet weather flows.
- 1:45 – 2:30 p.m. **An Introduction to Asset Management** – Instructors, Gregory Stephens and Kendrick St Louis – DCWATER
Asset Management is a comprehensive business program advocated by the US EPA and the utility industry to optimize infrastructure sustainability. It is essentially the practice of managing infrastructure capital assets to minimize the total cost of acquiring, operating and maintaining them, while improving service levels. The process involves incorporating detailed asset inventories, data management, related business processes and long-range financial planning to drive decision-making by optimizing the ability to prioritize capital program projects and preventive maintenance work.
- 2:45 – 3:30 p.m. **SSES//Private Property I/I** – Instructor, Paul Sayan – Louis Berger Water Services
The presentation will explain the purpose of the SSES investigations including flow monitoring, CCTV and manhole inspections, smoke and dye testing. The presentation will also discuss how SSES investigations are related to private property inflow/ infiltration and general guidance to develop and implement a private property I/I reduction problem.
- 3:30 – 4:00 p.m. **Wastewater Pumping and Operations** – Instructor, Wayne Reed – Army Corps of Engineers, Washington Aqueduct
Wastewater pumping and operations presentation will discuss wet well maintenance for settling grease and odor control. Discussions will carry into the different types of wastewater pumping stations from temporary can type stations to more custom-built stations with mechanical and support equipment for the pumping and screening operations.

TUESDAY

- 9:00 a.m. – Noon **Disinfection & Chemical Feed Applications** – Instructor, Paula Martin

Effective chemical application is essential to the treatment of water and wastewater. This course will start with an open discussion of chemical feed applications in both the water and wastewater treatment fields.

Noon – 1:00 p.m.

BREAK

1:00 – 4:00 p.m.

Math Application – Instructor, Paula Martin

A workshop focusing on calculating chemical feed dosages will follow. The workshop includes calculating the capacity of tanks, flow rates, and chemical dosages for disinfection, de-chlorination, odor control, coagulation, and corrosion control. Students will progress at their own pace through multiple and progressively more difficult quizzes.

WEDNESDAY

9:00 a.m. – Noon

Centrifugal Pumps and Components – Instructor, Wayne E. Reed, Army Corps of Engineers, Washington Aqueduct

Topics presented in this session include hydraulics of pumps as applied to the waterworks industry, pump operation and routine maintenance.

Noon – 1:00 p.m.

BREAK

1:00 – 4:00 p.m.

Centrifugal Pumps and Components (continued) – Instructor, Wayne E. Reed, Army Corps of Engineers, Washington Aqueduct

THURSDAY

9:00 a.m. – Noon

Basic Chlorine and Chlorine Cylinder Program – Instructor, Michael Lewis – WSSC

Lock out tag out, basic chlorine, chlorine cylinder program,

Noon – 1:00 p.m.

BREAK

1:00 – 4:00 p.m.

OSHA Permit Required Confined Space; Excavation and Trench
Instructor, Michael Lewis – WSSC

FRIDAY

9:00 a.m. – Noon

Final Short Course Examination

Superintendents Course

The Superintendents Course is designed for certified superintendents, managers, supervisors, and experienced operators who have taken basic and advanced courses. This course was designed to meet the needs of superintendent's recertification and may be approved for other operators' certification as well. Each of the 3-hour classes have been approved for Maryland TRE credits.

TUESDAY

9:00 a.m. – Noon

ALICE (Alert, Lockdown, Inform, Counter, Evacuate) Training -
Instructors, Angela Ballard-Landers & Olivia Higgins – WSSC Water
ALICE (Alert, Lockdown, Inform, Counter, Evacuate) Training is designed to educate individuals on how to prepare and plan for intruder threat/active shooter attack. The ALICE training method is very different

than the traditional “lockdown only” approach. The goal of the training is to increase the odds of survival by taking a more proactive approach. This course has been approved for Maryland TRE credits (#6925-21-3, Non-Process, Ops All, Supers All).

Noon – 1:00 p.m. **BREAK**

1:00 – 4:00 p.m. **Incident Command System and National Incident Management - System**

Instructor, David McDonough, J.D. – WSSC Water

ICS 100 - Introduction to the Incident Command System, introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS).

This course has been approved for Maryland TRE credits (#6926-21-3, Non-Process, Ops All, Supers All).

At the completion of this course, you should be able to:

- Explain the principles and basic structure of the Incident Command System (ICS).
- Describe the NIMS management characteristics that are the foundation of the ICS.
- Describe the ICS functional areas and the roles of the Incident Commander and Command Staff.
- Describe the General Staff roles within ICS.
- Identify how NIMS management characteristics apply to ICS for a variety of roles and discipline areas.

IS-700, provides an overview of the National Incident Management System (NIMS). The National Incident Management System defines the comprehensive approach guiding the whole community - all levels of government, nongovernmental organizations (NGO), and the private sector - to work together seamlessly to prevent, protect against, mitigate, respond to, and recover from the effects of incidents. The course provides learners with a basic understanding of NIMS concepts, principles, and components. At the end of this course, students will be able to:

- Describe and identify the key concepts, principles, scope, and applicability underlying NIMS.
- Describe activities and methods for managing resources.
- Describe the NIMS Management Characteristics.
- Identify and describe Incident Command System (ICS) organizational structures.
- Explain Emergency Operations Center (EOC) functions, common models for staff organization, and activation levels.
- Explain the interconnectivity within the NIMS Management and Coordination structures: ICS, EOC, Joint Information System (JIS), and Multiagency Coordination Groups (MAC Groups).

- Identify and describe the characteristics of communications and information systems, effective communication, incident information, and communication standards and formats.
- This course has been approved for Maryland TRE credits (#6925-21-3-O).

WEDNESDAY

9:00 a.m. – Noon

Sustainable Management of Rural and Small Systems Workshop –

Instructor, Eric Dutrow – Maryland Rural Water Association

Participants will learn about and use the key management areas, the self-assessment process, and tools, tips, and measures for performance improvement. The two overarching objectives for the day are for the participant to learn about ways to think about managing your system more sustainably and learn about a self-assessment process that can be used in various settings to improve understanding about utility operating and capital requirements and build support for needed performance improvements.

This course has been approved for Maryland TRE credits (#6927-21-3, Non-Process, Ops All, Supers All).

Noon – 1:00 p.m.

BREAK

1:00 – 4:00 p.m.

Compliance & Safety for Small Water Systems

Instructor, Scott W. Getchell, PO – GMB Architects/Engineers

Participants will learn a wide variety of compliance related topics such as the induction and compliance of the SDWA, proper sampling procedures and associated regulations, operator certification requirements, MDE permits and reporting, proper operator recordkeeping, OSHA and EPA requirements. These important topics were compiled for the beginning operator as well as the experienced operator/manager.

This course has been approved for Maryland TRE credits (#6928-21-3, Non-Process, Ops All, Supers All).

Agenda

1. Introductions and class objectives
2. Safe Drinking Water Act
3. Water Sampling
4. Operator Certification Requirements
5. MDE Regulations
6. Record Keeping
7. OSHA Regulation
8. Risk Management Plans
9. Process Safety Management

2021 Water & Wastewater Operators Short Courses Committees

Chairperson:	Clark Howells (CWEA), Baltimore City DPW
Vice Chairperson:	Jay Price (WWOA/CSAWWA), WSSC Water
Treasurer:	David Wilkins (CSAWWA), WSSC Water
Secretary/Assist Treasurer:	John Luu (CWEA), WSSC Water
Water Treatment:	Rob Swann (CSAWWA), Anne Arundel County DPW Dinesh Bahadursingh (CSAWWA), WSSC Water Scott Harmon (CWEA/CSAWWA), MD Rural Water Association
Water Distribution:	John Luu (CWEA), WSSC Water Dave Wilkins (CSAWWA), WSSC Water
Wastewater Treatment:	Rob Kraus, (WWOA), Anne Arundel County DPW Mike Marinelli, (CWEA), WSSC Water Bill Farrell (CWEA/WWOA/CSAWWA), MEI/RTS/Prostart
Wastewater Collection:	Wayne Reed (CWEA), ACE - Washington Aqueduct
Superintendent:	Winfield McKell (WWOA), WSSC Water Michael Lewis (CSAWWA), WSSC Water
College Liaison:	Jim Timmons (WWOA), Baltimore City DPW (Retired)
Admin. Coordinators:	Noelle Anuszkiewicz (CWEA), Anne Arundel County DPW Angela Ballard-Landers (CSAWWA), WSSC Water Billy Dove, (CSAWWA), Baltimore City DPW Rob Nally (CSAWWA), WSSC Water Conrad Shows (WWOA), DCWater (Retired) Ivy Swann (WWOA) Licette Villafane (CSAWWA), WSSC Water

Short Courses Instructors

We offer our sincere thanks to each instructor who is giving of their time and effort without monetary compensation to convey this beneficial information to the respective students. Also, thanks to the companies who have allowed the instructors time to participate in the Short Courses. You will find the names of the instructors with the classes they are teaching.