

On-Line Training Course Descriptions for Indigo Water Group - 2015

Course Title: Unit Conversions		Length: 0.5 hrs	Cost: \$10
Course Description: Thirty minutes of math problems covering unit conversions.			
Colorado Approval No: 15-OW-0030	Water: 0.05	Wastewater: 0.05	Industrial: 0.05
	Collection: 0.05	Distribution: 0.05	Supplemental: 0
Ohio Approval No: OEPA-B579860-OM	Ohio Hours: 0.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 0.5		Nebraska Industrial Hours: 0.5	
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Course Title: Geometry		Length: 0.5 hrs	Cost: \$10
Course Description: Thirty minutes of math problems covering the areas and volumes of tanks. We even show you how to do the dreaded "paint the tank" problem.			
Colorado Approval No: 15-OW-0030	Water: 0.05	Wastewater: 0.05	Industrial: 0.05
	Collection: 0.05	Distribution: 0.05	Supplemental: 0
Ohio Approval No: OEPA-B579859-OM	Ohio Hours: 0.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 0.5		Nebraska Industrial Hours: 0.5	
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Course Title: Chemical Dosing		Length: 0.5 hrs	Cost: \$10
Course Description: Thirty minutes of math problems focussed on chlorine addition -- Dose, Demand, Residual, Pounds per Day, and percent chlorine are all made clear.			
Colorado Approval No: 15-OW-0030	Water: 0.05	Wastewater: 0.05	Industrial: 0.05
	Collection: 0.05	Distribution: 0.05	Supplemental: 0
Ohio Approval No: OEPA-B579858-OM	Ohio Hours: 0.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 0.5		Nebraska Industrial Hours: 0.5	
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Course Title: Pumps		Length: 1.5 hrs	Cost: \$30
Course Description: This course discusses the different kinds of pumps used in water and wastewater treatment including centrifugal, positive displacement, peristaltic, and more. Components of each pump and mechanism of action are discussed as well as typical uses. Other topics include: cavitation, pump curves, the pump affinity laws, and total dynamic head. This presentation is supplemented with many wonderful pump animations provided by various pump manufacturers that are linked to through youtube.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0.15	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B581454-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
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Course Title: Hydraulics Basics		Length: 1 hrs	Cost: \$20
Course Description: This course discusses basic properties of water including weight, density, pressure, and specific gravity. Conversion of pressure to feet of head in various units is demonstrated. Multiple examples of why pressure is so important in water and wastewater systems are presented including: determining pressures due to elevation changes in distribution systems, high groundwater and floating tanks, surcharging of sewers, and using pressure to do work with hydraulic jacks. The concepts of velocity and water hammer are introduced. The presentation closes with a description and demonstration of a ram pump whose operation is based on pressure, velocity, and water hammer.			
Colorado Approval No: 15-OW-0033	Water: 0.1	Wastewater: 0.1	Industrial: 0.1
	Collection: 0.1	Distribution: 0.1	Supplemental: 0
Ohio Approval No: OEPA-B581457-OM	Ohio Hours: 1	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1		Nebraska Industrial Hours: 1	
Course Title: Hydraulics of Pumped Systems			
		Length: 2 hrs	Cost: \$40
Course Description: This 120 minute (2 hour) presentation discusses hydraulic principles as they relate to pump operation. The presentation begins with a thorough discussion of total dynamic head and each of its components, the difference between suction lift and suction head, and how to calculate major and minor losses in a system. The second portion of the talk discusses work, power, and energy, how each is calculated, and the cost of running a piece of equipment. The presentation continues with a discussion of discharge velocity from a centrifugal pump, calculating impeller diameter, and the pump affinity laws. Attendees will learn to predict pump discharge, brake horsepower, amp draw, and discharge head from changes to either the pump speed or impeller diameter. The presentation ends with a discussion of cavitation, net positive suction head, and how to read both system curves and pump curves.			
Colorado Approval No: 15-OW-0033	Water: 0.2	Wastewater: 0.2	Industrial: 0.2
	Collection: 0.2	Distribution: 0.2	Supplemental: 0
Ohio Approval No: OEPA-B579855-OM	Ohio Hours: 2	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 2	
Course Title: Corrosion Control			
		Length: 2 hrs	Cost: \$40
Course Description: The first half of this course discusses the various forms of corrosion and their causes. Each of the following methods for controlling corrosion is discussed in the second half at length: materials selection, coatings, passive and active galvanic protection, reducing hydrogen sulfide formation through various methods (chemical precipitation, pH control, oxygen addition), are discussed as well as minimizing dead spots. Crown corrosion of manholes and concrete pipe is discussed as well as corrosion issues associated with pump stations.			
Colorado Approval No: 15-OW-0033	Water: 0.2	Wastewater: 0.2	Industrial: 0.2
	Collection: 0.2	Distribution: 0.2	Supplemental: 0
Ohio Approval No: OEPA-B579856-OM	Ohio Hours: 2	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 2	

Course Title: Maintenance		Length: 1.5 hrs	Cost: \$30
Course Description: Implementing a focused maintenance program that includes predictive and preventive maintenance strategies is critical for maintaining water and wastewater infrastructure. This course will walk participants through how to set up a good maintenance program from tracking spare parts to proving effectiveness.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0.15	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B581464-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
Course Title: Representative Sampling			
Course Title: Representative Sampling		Length: 1.5 hrs	Cost: \$30
Course Description: This course will cover the efficient and safe collection of representative samples. We will discuss characteristics and guidelines of representative samples, how to record samples, and various types of samples, as well as the use of autosamplers. Students will view both good and bad examples of samples taken.			
Colorado Approval No: 15-OW-0233	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B580290-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
Course Title: Disinfection Byproducts			
Course Title: Disinfection Byproducts		Length: 1.5 hrs	Cost: \$30
Course Description: This presentation will define disinfection byproducts and discuss the regulations on their levels in drinking water and recycled water. We will look at what causes the formation of DBPs and ways to prevent their formation. Applicable to both water and wastewater systems.			
Colorado Approval No: 15-OW-0233	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B580289-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	
Course Title: Trenching and Shoring			
Course Title: Trenching and Shoring		Length: 2 hrs	Cost: \$40
Course Description: Two hour class demonstrates the need for a competent site supervisor to evaluate and take necessary steps to maintain a safe work site. Uses OSHA standards as a reference for shoring, benching, and safe operation within a construction trench.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0	Industrial: 0
	Collection: 0.2	Distribution: 0.2	Supplemental: 0
Ohio Approval No: OEPA-B579857-X	Ohio Hours: 2	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 2	
Course Title: Confined Space Entry			
Course Title: Confined Space Entry		Length: 1.5 hrs	Cost: \$30
Course Description: Safety programs, confined space entry requirements and procedures.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0.15	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B579842-X	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	

Course Title: Introduction to Collections Systems		Length: 1.5 hrs	Cost: \$30
Course Description: This class presents an overview of the collection system and discusses its primary components and types. Placement of interceptors along natural drainages, manhole placement, pump station function, and inflow and infiltration are discussed. Collection system architecture is compared to distribution system architecture. The following topics are also covered: minimum slopes for given pipe diameters, preferred d/D ratios, scour at peak hour flows, pipe materials, velocities in force mains, hydraulic gradeline, and causes of surcharging.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0	Industrial: 0
	Collection: 0.15	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579861-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	
Course Title: Collection System Inspection, Testing, and Cleaning - Part 1		Length: 2 hrs	Cost: \$40
Course Description: This course (in 2 parts) introduces participants to the purposes and methods of collection system inspection, testing, and cleaning including: closed circuit television inspections, smoke testing, dye testing, sewer balling, jetting, rodding, flushing, and bucketmachines. The importance of maintaining good system records and maps of the collection system is emphasized. Collection system modeling and GIS concepts are introduced as they relate to maintenance records. Participants will learn to identify problems in existing pipelines, locate storm sewer connections to the sanitary sewer, estimate inflow and infiltration, and identify deposits of oil and grease. Participants will view actual CCTV footage.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0	Industrial: 0
	Collection: 0.2	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579863-OM	Ohio Hours: 2	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 0	
Course Title: Collection System Inspection, Testing, and Cleaning - Part 2		Length: 2 hrs	Cost: \$40
Course Description: This course (in 2 parts) introduces participants to the purposes and methods of collection system inspection, testing, and cleaning including: closed circuit television inspections, smoke testing, dye testing, sewer balling, jetting, rodding, flushing, and bucketmachines. The importance of maintaining good system records and maps of the collection system is emphasized. Collection system modeling and GIS concepts are introduced as they relate to maintenance records. Participants will learn to identify problems in existing pipelines, locate storm sewer connections to the sanitary sewer, estimate inflow and infiltration, and identify deposits of oil and grease. Participants will view actual CCTV footage.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0	Industrial: 0
	Collection: 0.2	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579864-OM	Ohio Hours: 2	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 0	

Course Title: Lift Stations		Length: 1 hrs	Cost: \$20
Course Description: This presentation discusses dry pit and wet pit lift stations, pump arrangement, level indicator equipment, and basic lift station operation and maintenance.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0	Industrial: 0
	Collection: 0.1	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579862-OM	Ohio Hours: 1	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1		Nebraska Industrial Hours: 1	
Course Title: Pretreatment and Pollution Prevention		Length: 2.5 hrs	Cost: \$50
Course Description: This course discusses the industrial pretreatment and pollution prevention programs. It focuses on how effluent limits for indirect dischargers are determined. The impact of various types of discharges on the collection system, especially FOG, will be discussed. Topics to be covered include: legal authority and the sewer ordinance, setting local limits, categorical limits, types of users connecting to the collection system, and pollution prevention at the source. The pollution prevention portion of the course focusses on how industrial users can decrease water usage and wastewater strength by implementing simple changes on the factory floor. The use of screens, water audits, and other methods is discussed.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.2	Industrial: 0.2
	Collection: 0.2	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579866-OM	Ohio Hours: 1	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2.5		Nebraska Industrial Hours: 2.5	
Course Title: Introduction to Wastewater: A Plant Overview		Length: 1.5 hrs	Cost: \$30
Course Description: This presentation introduces operators to wastewater treatment starting with a "typical" treatment plant consisting of preliminary, primary, secondary, and tertiary treatment followed by disinfection. Alternatives for each unit process will be discussed such as activated sludge or lagoons or trickling filters for the secondary process. Solids handling, thickening, digestion, and dewatering will be introduced and the importance of recycle streams emphasized.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579867-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	
Course Title: What's In My Wastewater: Definitions and Typical Ratios		Length: 1.5 hrs	Cost: \$30
Course Description: Domestic wastewater is fairly consistent in composition from treatment plant to treatment plant. Unless there are large industrial contributions, domestic wastewater can be expected to adhere to some basic principles. For example, influent BOD should be between 80 and 120% of the influent TSS. Influent TKN should be around 10 or 20 percent of the influent BOD. We'll look at why these ratios hold true and how they can be used to determine if laboratory data is internally consistent. Knowing typical wastewater characteristics can be extraordinarily helpful in determining whether sample results are representative. Look at your lab data in a whole new light!			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.15	Industrial: 0.15
	Collection: 0.15	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579868-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	

Course Title: Fixed Film: Tricking Filters and RBCs		Length: 1.5 hrs	Cost: \$30
Course Description: This section presents the method of operation for various fixed film processes including trickling filters, rotating biological contactors, biological aerated filters, and others. Basic design principals are discussed as well as biological processes taking place in aerobic, facultative, and anaerobic biofilm layers. Differences between fixed film systems and suspended growth / hybrid systems are discussed as well as typical operating ranges for each system type including hydraulic and organic loading rates. This course is supplemented with many photographs showing different technologies with descriptions of the functions of various pieces such as the plenum, underdrain, and distributors.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S581512-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	
Course Title: Lagoons and Wetlands			
Course Title: Lagoons and Wetlands		Length: 2 hrs	Cost: \$40
Course Description: This presentation covers the method of operation for lagoons and various natural treatment processes. Basic design principals are discussed for lagoons as well as biological processes taking place in aerobic, facultative, and anaerobic ponds. Typical operating ranges for each system type including hydraulic and organic loading rates are presented. Troubleshooting is discussed and relationships between operating variables.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579869-OM	Ohio Hours: 2	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 0	
Course Title: Lagoons and Fixed Film			
Course Title: Lagoons and Fixed Film		Length: 1.5 hrs	Cost: \$30
Course Description: This presentation combines material on lagoons (briefly) and fixed film treatment processes like trickling filters and RBCs. If you are looking for lagoon information specifically, please take our Lagoons and Wetlands course instead.			
Colorado Approval No: 15-OW-0033	Water: 0.1	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579870-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	
Course Title: Activated Sludge Basics			
Course Title: Activated Sludge Basics		Length: 2.5 hrs	Cost: \$50
Course Description: This course introduces participants to the basics of activated sludge. It presents fundamental concepts such as space loading, F:M ratio, MCRT, SRT, solids loading and flux to the secondary clarifier, and surface overflow rate. We focus on how each of these variables is interrelated and how changing one necessarily changes the others. Typical ranges for conventional and extended aeration activated sludge plants are compared. This class also looks at an introduction to microbiology, filaments, conditions for filamentous growth, and control.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.25	Industrial: 0.25
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579871-OM	Ohio Hours: 2.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2.5		Nebraska Industrial Hours: 0	

Course Title: Activated Sludge Basics: A Mechanical Approach		Length: 2 hrs	Cost: \$40
Course Description: If activated sludge has never made sense to you, but engines and other mechanical devices do, then this is the course for you. Inspired by the chief of maintenance at a Colorado WWTP, this course looks at activated sludge from a mechanical perspective and introduces bacteria as the little combustion engines that they are. Seeing the mechanical inputs makes the inner workings of activated sludge crystal clear.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S576553-OM	Ohio Hours: 2	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 0	
Course Title: Activated Sludge Microbiology and Microscope Techniques - Part 1		Length: 1 hrs	Cost: \$20
Course Description: Activated sludge microbiology gives a broad overview of the role of different microorganisms present in activated sludge and how the dominance of one species over another, especially filaments, can be an indicator to direct plant troubleshooting. The conditions that promote the growth of common activated sludge filaments are discussed along with methods for their control.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.1	Industrial: 0.1
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579874-OM	Ohio Hours: 1	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1		Nebraska Industrial Hours: 0	
Course Title: Activated Sludge Microbiology and Microscope Techniques - Part 2		Length: 1 hrs	Cost: \$20
Course Description: Activated sludge microbiology gives a broad overview of the role of different microorganisms present in activated sludge and how the dominance of one species over another, especially filaments, can be an indicator to direct plant troubleshooting. The conditions that promote the growth of common activated sludge filaments are discussed along with methods for their control.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.1	Industrial: 0.1
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579875-OM	Ohio Hours: 1	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1		Nebraska Industrial Hours: 0	
Course Title: Types of Activated Sludge Systems		Length: 1.5 hrs	Cost: \$30
Course Description: Different types of activated sludge systems are discussed with a focus on flow patterns (complete mix, plug flow, batch) versus operational method (pureox, conventional, extended aeration, step feed, high rate, etc.). Simple process diagrams and photographs of each process type are included. Pros and cons of each type of system and their associated treatment objectives are also discussed.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579878-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	

Course Title: Nitrification and Denitrification		Length: 2 hrs	Cost: \$40
Course Description: This presentation covers ammonia removal by non-biological methods, biological nitrification, and denitrification. Topics that are covered include: the organisms responsible for nitrification and denitrification, stoichiometry, variables that impact performance, the different types of unit processes (fixed films and activated sludge) that can be used for nitrogen removal, ion exchange, and breakpoint chlorination.			
Colorado Approval No: 15-OW-0033	Water: 0.2	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579877-OM	Ohio Hours: 2	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 0	
Course Title: Biological and Chemical Phosphorus Removal		Length: 1.5 hrs	Cost: \$30
Course Description: This course is an introduction to biological and chemical phosphorus removal. Attendees will learn about the organisms responsible for biological phosphorus removal, the importance of cycling between anaerobic and anoxic/aerobic conditions, the benefits of biological phosphorus removal, and a brief introduction to chemical removal methods.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579876-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0.5	
Course Title: State Point Analysis for Secondary Clarifiers		Length: 1.5 hrs	Cost: \$30
Course Description: This course gives an in-depth discussion of secondary clarifier state point analysis which is a mathematical model used to predict secondary clarifier performance based on sludge settling characteristics, solids loading rate, surface overflow rate, and return activated sludge rate. Participants will actively utilize the model in class for hands-on exercises.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579872-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
Course Title: Activated Sludge Process Control Tests and Troubleshooting		Length: 2 hrs	Cost: \$40
Course Description: This activated sludge course focuses on process control technologies and can be tailored to a specific treatment plant. The general agenda discusses process control by MCRT and SRT, constant MLSS mass, and food to microorganism ratio. Additional strategies such as DO control, ORP control, selective wasting, use of anoxic and anaerobic selectors, and impact of sidestreams may also be discussed depending on the particular plant where the training takes place.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579873-OM	Ohio Hours: 2	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 2	

Course Title: Chlorine Disinfection		Length: 1.5 hrs	Cost: \$30
Course Description: This wastewater-focused presentation walks the participant through chlorine chemistry, the different forms of chlorine available for disinfection, and chlorine safety. This class devotes time to the safe handling of gaseous and liquid chlorine and reporting requirements under SARA Title III. The class covers recommended doses and contact times for various applications as well as the impact of water chemistry and temperature on disinfection.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B579840-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
Course Title: Chlorine Cylinder Changeout Demonstration		Length: 0.5 hrs	Cost: \$10
Course Description: This brief, 30 minute video, demonstrates how to properly change out a 150 lb chlorine cylinder.			
Colorado Approval No: 15-OW-0033	Water: 0.05	Wastewater: 0.05	Industrial: 0.05
	Collection: 0	Distribution: 0.05	Supplemental: 0
Ohio Approval No: OEPA-B579841-OM	Ohio Hours: 0.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: Not approved.		Nebraska Industrial Hours: Not approved.	
Course Title: Introduction to Solids Handling and 503 Regulations		Length: 1.5 hrs	Cost: \$30
Course Description: Participants will be given an overview of the Biosolids 503 Regulations and their Colorado equivalent including sample calculations for land application. The purpose of solids stabilization and management is emphasized both from a public health perspective and reducing overall operating and disposal costs.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0.15	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B579843-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	
Course Title: Aerobic and Anaerobic Digestion		Length: 2 hrs	Cost: \$40
Course Description: This course focusses specifically on aerobic and anaerobic digestion with a focus on components (parts and purpose including lids, gas collection, mixing techniques, heat exchangers, and more), typical design and operating criteria, indications of souring, and process control calculations specific to anaerobic digestion.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579844-OM	Ohio Hours: 2	Ohio Audience: WW Only	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 0	

Course Title: Belt Filter Presses		Length: 1.5 hrs	Cost: \$30
Course Description: This course is devoted to operation and maintenance of belt filter presses. It begins with a thorough discussion of belt filter press theory followed by a close examination of the components of the press itself. The second half of the course is devoted to process control calculations specific to belt filter presses followed by a section on troubleshooting.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-B579845-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
Course Title: Centrifuges			
Course Title: Centrifuges		Length: 1.5 hrs	Cost: \$30
Course Description: This course is devoted to operation and maintenance of centrifuges. It begins with a thorough discussion of centrifugal dewatering theory followed by a close examination of the equipment components. The second half of the course is devoted to process control calculations and adjustments specific to centrifuges followed by a section on troubleshooting.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579846-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
Course Title: Odor Control			
Course Title: Odor Control		Length: 1.5 hrs	Cost: \$30
Course Description: This presentation will discuss the sources of odors in water and wastewater treatment, the chemical composition of different odor causing compounds, and methods for odor control. Odors may be controlled by preventing formation, masking, filtering, or processing biologically.			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.15	Industrial: 0.15
	Collection: 0.15	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579851-OM	Ohio Hours: 1.5	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 1.5	
Course Title: Laboratory Testing - Part 1 (pH, alkalinity, BOD, and Winkler)			
Course Title: Laboratory Testing - Part 1 (pH, alkalinity, BOD, and Winkler)		Length: 2 hrs	Cost: \$40
Course Description: These talks cover a variety of laboratory testing procedures used in water and wastewater labs. Each method has its own one hour powerpoint presentation with lots of photographs walking analysts through procedures step by step. Appropriate QA/QC samples for each method are discussed as well as what to do when QA samples are out of limits. Each presentation references back to EPA 200 series methods and Standard Methods.			
Colorado Approval No: 15-OW-0033	Water: 0.1	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0.05	Supplemental: 0
Ohio Approval No: OEPA-B579848-OM	Ohio Hours: 3	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 1	

Course Title: Laboratory Testing - Part 2A (Total Suspended Solids)		Length: 1 hrs	Cost: \$20
Course Description: These method specific talks cover a variety of laboratory testing procedures used in water and wastewater labs. Each method has its own one hour powerpoint presentation with lots of photographs walking analysts through procedures step by step. Appropriate QA/QC samples for each method are discussed as well as what to do when QA samples are out of limits. Each presentation references back to EPA 200 series methods and Standard Methods.			
Colorado Approval No: 15-OW-0033	Water: 0.1	Wastewater: 0.1	Industrial: 0.1
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S581445-OM	Ohio Hours: 1	Ohio Audience: WW Only	
Nebraska Municipal Hours: 1		Nebraska Industrial Hours: 1	
Course Title: Laboratory Testing - Part 2B (Fecal coliforms)		Length: 1.5 hrs	Cost: \$20
Course Description: These method specific talks cover a variety of laboratory testing procedures used in water and wastewater labs. Each method has its own one hour powerpoint presentation with lots of photographs walking analysts through procedures step by step. Appropriate QA/QC samples for each method are discussed as well as what to do when QA samples are out of limits. Each presentation references back to EPA 200 series methods and Standard Methods.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: OEPA-B579850-OM	Ohio Hours: 1.5	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1.5		Nebraska Industrial Hours: 0	
Course Title: Proper Use of Spectrophotometers (QA/QC)		Length: 1 hrs	Cost: \$20
Course Description: Every water and wastewater plant has a spectrophotometer that is used for process control and sometimes for reporting compliance sample results. Are you using yours correctly? Learn when a blank, standard, spike, spike duplicate, and other quality assurance and quality control samples are needed, how to interpret results, and the appropriate corrective actions.			
Colorado Approval No: 15-OW-0033	Water: 0.1	Wastewater: 0.1	Industrial: 0.1
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-B579847-OM	Ohio Hours: 1	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 1		Nebraska Industrial Hours: 1	
Course Title: Basic Chemistry		Length: 2 hrs	Cost: \$40
Course Description: We will cover the periodic table, atoms, ionic and covalent bonding, naming of compounds, atomic and formula weights, calculating chemical dosages, and the concept of limiting reactant. Examples will be drawn from phosphorus precipitation, disinfection, and other common reactions in wastewater.			
Colorado Approval No: 15-OW-0033	Water: 0.2	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0.2	Supplemental: 0
Ohio Approval No: OEPA-B576552-OM	Ohio Hours: 2	Ohio Audience: Both DW and WW	
Nebraska Municipal Hours: 2		Nebraska Industrial Hours: 2	

Course Title: Treatment of Metal Wastestreams		Length: 1 hrs	Cost: \$20
Course Description: This course is meant as an introduction to metals precipitation chemistry, pH control, cyanide chemistry. Learn industrial chemistry used to remove heavy metals and cyanide from different waste streams prior to discharge. How low can you go?			
Colorado Approval No: 15-OW-0033	Water: 0	Wastewater: 0.1	Industrial: 0.1
	Collection: 0	Distribution: 0	Supplemental: 0
Ohio Approval No: OEPA-S579852-OM	Ohio Hours: 1	Ohio Audience: WW Only	
Nebraska Municipal Hours: 0		Nebraska Industrial Hours: 1	
Course Title: Introduction to Small Water Systems			
		Length: 1.5 hrs	Cost: \$
Course Description: This is part 1 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". This brief introduction explores the following topics: properties of water, distribution of water on planet earth, the hydrologic cycle, uses of water, basic types of water systems, a history of water treatment and distribution, classification of water systems, and definitions of typical small water system types.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.		Nebraska Industrial Hours: Not approved.	
Course Title: Water Treatment Chemistry			
		Length: 2 hrs	Cost: \$
Course Description: This is part 2 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". It starts with a general description of the properties of water, atomic structure, reading the periodic table, calculating atomic and formula weights, defining ions, common ions and their charges, and demonstrates how charges on different atoms are balanced in compounds. The second portion of the presentation looks at aggregate properties of water like pH, suspended and dissolved solids, color, turbidity, alkalinity, and hardness.			
Colorado Approval No: 15-OW-0033	Water: 0.2	Wastewater: 0.2	Industrial: 0.2
	Collection: 0	Distribution: 0.2	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.		Nebraska Industrial Hours: Not approved.	
Course Title: Water Microbiology			
		Length: 1.5 hrs	Cost: \$
Course Description: This is part 3 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". The microbiology chapter defines bacteria, viruses, and protozoa. It gives examples of each commonly found in raw water supplies and explains the multi-barrier philosophy of water treatment and distribution.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0.15	Industrial: 0.15
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.		Nebraska Industrial Hours: Not approved.	

Course Title: Water Sources Part 1		Length: 1.5 hrs	Cost: \$
Course Description: This is part 5 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". Water Sources is broken into two on-line training courses labeled as Part 1 and Part 2. These two courses look at water sources; ground and surface, and the advantages and disadvantages of each. Other topics explored in these two presentations include: raw water storage (reservoirs and tanks), surface water intake types, flow measurement (weirs and flumes), aquifer terminology (confined, unconfined, artesian, zones, porosity, etc.), well location criteria, well components, and turbine pumps.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.		Nebraska Industrial Hours: Not approved.	
Course Title: Water Sources Part 2		Length: 2 hrs	Cost: \$
Course Description: This is part 6 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". Water Sources is broken into two on-line training courses labeled as Part 1 and Part 2. These two courses look at water sources; ground and surface, and the advantages and disadvantages of each. Other topics explored in these two presentations include: raw water storage (reservoirs and tanks), surface water intake types, flow measurement (weirs and flumes), aquifer terminology (confined, unconfined, artesian, zones, porosity, etc.), well location criteria, well components, and turbine pumps.			
Colorado Approval No: 15-OW-0033	Water: 0.2	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution: 0.2	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.		Nebraska Industrial Hours: Not approved.	
Course Title: Water Treatment Part 1		Length: 2.5 hrs	Cost: \$
Course Description: This is part 7 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". Water Treatment is broken into two on-line training courses labeled as Part 1 and Part 2. These two courses begin with a discussion of the need for treatment and the types of contaminants removed before moving on to look at an overview of the three primary methods of surface water treatment (conventional, direct filtration, and membrane treatment). Each step of conventional treatment (coagulation, flocculation, sedimentation, and filtration) are explained at an overview level. Jar testing and determining optimal coagulant doses are also discussed. Part 2 focuses on chlorine disinfection.			
Colorado Approval No: 15-OW-0033	Water: 0.25	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution:	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.		Nebraska Industrial Hours: Not approved.	

Course Title: Water Treatment Part 2		Length: 2.5 hrs	Cost: \$
Course Description: This is part 8 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". Water Treatment is broken into two on-line training courses labeled as Part 1 and Part 2. These two courses begin with a discussion of the need for treatment and the types of contaminants removed before moving on to look at an overview of the three primary methods of surface water treatment (conventional, direct filtration, and membrane treatment). Each step of conventional treatment (coagulation, flocculation, sedimentation, and filtration) are explained at an overview level. Jar testing and determining optimal coagulant doses are also discussed. Part 2 focuses on chlorine disinfection.			
Colorado Approval No: 15-OW-0033	Water: 0.25	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution:	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.	Nebraska Industrial Hours: Not approved.		
Course Title: Intro to Distribution Systems		Length: 2 hrs	Cost: \$
Course Description: This is part 9 of a series of on-line training classes taught from ACRP's book "Introduction to Small Water Systems". This presentation reviews the major components of distribution systems including pipes and materials, valves, hydrants, storage reservoirs, meters, and curb stops. The concept of cross connections is introduced and the various methods for avoiding a cross connection are defined (air gap, vacuum breaker, etc.).			
Colorado Approval No: 15-OW-0033	Water: 0.1	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution: 0.2	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.	Nebraska Industrial Hours: Not approved.		
Course Title: Regulations Part 1		Length: 1.5 hrs	Cost: \$
Course Description: Parts 1 and 2 walk attendees through each part of the Colorado Drinking Water Regulations with an emphasis on MCLs and sampling requirements.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.	Nebraska Industrial Hours: Not approved.		
Course Title: Regulations Part 2		Length: 1.5 hrs	Cost: \$
Course Description: Parts 1 and 2 walk attendees through each part of the Colorado Drinking Water Regulations with an emphasis on MCLs and sampling requirements.			
Colorado Approval No: 15-OW-0033	Water: 0.15	Wastewater: 0	Industrial: 0
	Collection: 0	Distribution: 0.15	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.	Nebraska Industrial Hours: Not approved.		

Course Title: Corrosion Control and Laboratory		Length: 2 hrs	Cost: \$
Course Description: This presentation focusses on corrosion control in distribution systems specifically and the methods approved by EPA to control corrosion -- passivating films, control of water characteristics, and chemical addition (polyphosphates or silicates). Lagelier Index, CCPP Index, Hardness, and Alkalinity are defined. The galvanic cell and galvanic corrosion are also discussed.			
Colorado Approval No: 15-OW-0033	Water: 0.2	Wastewater: 0.2	Industrial: 0.2
	Collection: 0.2	Distribution: 0.2	Supplemental: 0
Ohio Approval No: Not approved.	Ohio Hours:	Ohio Audience:	
Nebraska Municipal Hours: Not approved.	Nebraska Industrial Hours: Not approved.		