

SPECIALIZED TRAINING PROGRAMS AND COURSES APPROVED BY THE
VIRGINIA BOARD FOR
WATERWORKS AND WASTEWATER WORKS OPERATORS AND ONSITE
SEWAGE SYSTEM PROFESSIONALS

GENERAL INFORMATION

1. The following programs have been specifically approved by the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals (Board) to conduct training courses that may be substituted for some of the experience required to qualify to sit for the examination for a waterworks or wastewater works operator license.
2. The Board uses the term "TC" for training credits. TCs differ from Continuing Professional Education (CPE) in that TCs are used to substitute for experience requirements for *initial licensure* and must be approved by the Board in a formal process. "CPE" is education that is used by *existing licensees* to satisfy the renewal requirement for a particular license and is not approved by the Board. CPE content is required to be limited to those items covered by the Board's examination for the relevant license for which CPE is completed.
3. The titles of the approved courses offered by each sponsor are listed along with the number of Training Credits (TCs) awarded for successful completion of each course. One training credit is equal to one month of experience substitution. No licensee may substitute more than 50% of the total experience required for any license applied for per 18VAC160-20-90 D 3 of the Board's Regulations.
4. No credit will be given for any course that is not on the current list. **Exception:** Courses provided by federal agencies; state agencies; or institutions, schools, and universities approved by the State Council of Higher Education for Virginia, for which continuing education units are awarded, may qualify for TCs without prior Board approval. Those courses may not appear on this list. To receive credit for those courses, a detailed hour-by-hour course schedule along with evidence of course completion must be provided with the application.
5. All certificates under the approved program may be used again to substitute for experience in a higher class license.
6. No experience substitution is allowed for Class 4, Class 5, or Class 6 licenses per 18VAC160-20-90 D 3 of the Board's Regulations.

For more information please contact:

Paul G. Saunders, III, Board Administrator
9960 Mayland Drive, Suite 400
Richmond, VA 23233
(804) 367-1795

Alexandria Sanitation Authority

For more information please contact: Jerry Barrett

1500 Eisenhower Avenue
Alexandria, VA 22314
(703) 549-3381

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE	OSSE
Biological Nutrient Removal (BNR) Overview	0.3	June 20, 2002		X				
BNR and Methanol	0.3	June 20, 2002		X				
Centrifuge Thickening	0.3	June 20, 2002		X				
Filtration System	0.3	June 20, 2002	X	X	X			
Primary Effluent Pumping	0.3	June 20, 2002		X	X			
Process Air	0.3	June 20, 2002		X	X			
Solids Overview	0.3	June 20, 2002		X	X			
SSTS, RAS, and WAS Systems	0.3	June 20, 2002		X				

Allen Baturay

For more information please contact: Allen Baturay, P.E.

4005 Aldie Road, Catharpin, VA 20143
(703) 369-0004

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE	OSSE
Sludge Incineration/Multiple Hearth Incineration	2.0	20-Apr-17		X				

American Association of Water and Wastewater Professionals (AAWWP)

For more information please contact: Mr. Dennis Campbell

502 Research Road
Richmond, VA 24236
(540) 915-6293

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE	OSSE
Wastewater Math	0.4	June 8, 2010		X	X			

American Water Works Association (AWWA), Virginia Section

For more information please contact: Ms. Sherry L. Williams

AWWA-Virginia Section-AWWA
Lynchburg, VA (804) 867-9171

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE	OSSE
Fire Hydrant & Water Main Maintenance	0.75	April 6, 1995	X					

Utility Management	0.1	0.1	0.1	June 21, 2006	X	X				
Water Distribution System Operation and Maint.		1.0	2.0	April 4, 1996	X					
Water Systems Operation and Maint. Video Training Series		1.0	2.0	June 21, 2006	X					
Water Treatment Plant Operation, Volume I	1.0	2.0	4.0	April 4, 1996	X					
Water Treatment Plant Operation, Volume II	1.0	2.0	4.0	April, 4 1996	X					

1 These six courses are World Wide Web versions of the components of "Small Water System Operation and Maintenance". Completion of all six courses earns a total of 2.4 TC's. As these six courses cover the same material as "Small Water System Operation and Maintenance", any person who completes "Small Water System Operation and Maintenance" and all six 0.4 credit courses will only be granted a maximum of 2.4 TC's total.

2 These three courses are versions of "Water Treatment Plant Operation, Volumes I & II", and "Small Water System Operation and Maintenance" with an available on-line examination. Any person submitting a certificate for the "Water Treatment Plant Operation Specialist Certificate Program" indicating the completion of all three courses shall be eligible

Central Carolina Technical College/ Environmental Training Center

For more information please contact: Elizabeth Williams
 SC Environmental Training Center Central Carolina Technical College 506 N, Guignard Drive
 Sumter, SC 29150
 (803) 778-6656
 etc@cctech.edu

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE	OSSE
Biological Wastewater Treatment Operators Short School (Levels A, B, C, D)	2.0	February 9, 1994		X				
Physical/Chemical Wastewater Treatment Plant Operators Short School (Levels A, B, C, D)	2.0	February 9, 1994		X				
Water Distribution Systems Operation and Maintenance Short School (Levels A, B, C, D)	2.0	February 9, 1994	X					
Water Treatment Plant Operators Short School (Levels A, B, C, D)	2.0	February 9, 1994	X					

Control Equipment Company

For more information please contact: 1019 Campbell Avenue SE Roanoke, Virginia 24013
 (800) 572-3220 or (434) 973-5111

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE	OSSE
Sodium Hypochlorite Disinfection	0.4	September 19, 2002	X	X	X			
UV Disinfection	0.4	September 19, 2002	X	X	X			

David H. Paul, Inc.

For more information please contact: Shawntay Wolfe-Martinez

David H. Paul, Inc.

1206 East 20th Farmington, NM 87499

(505) 326-3431

-Courses approved December 21, 2000

-Correspondence Study Courses (Refer To Chart Below)

Course No.	Course Title	Class 1	Class 2	Class 3	WWO	WWWO	OSSO	OSSI	OSSE	OSSE
INWT 145	Math, Chemistry, Biology			1.0	X	X	X			
INWT 146	Reverse Osmosis	1.0	1.0	2.0	X	X				
INWT 147	R O Troubleshooting	0.5	1.0	2.0	X	X				
INWT 160	High Purity Water from Ion			1.0	X	X				
INWT 161	Ion Exchange Operation	1.0	1.0	1.0	X	X				
INWT 162	Maintaining High Purity				X	X				
INWT 255	Pretreatment Troubleshooting	0.5	0.5	1.5	X	X				
INWT 256	Scaling and Fouling Troubleshooting	1.5	1.5	2.0	X	X				
INWT 257	Advanced R O	1.5	1.5	2.0	X	X				
INWT 270	Feedwater & Pretreatment			1.0	X	X				
INWT 271	Ion Exchange Troubleshooting	1.0	1.5	2.0	X	X				
INWT 272	Post Ion Exchange	0.5	0.5	1.5	X	X				

FABL Environmental Regulatory Specialists, Inc.

For more information please contact: Regina B. Meehan, President

1102 Roe Ford Road Greenville, SC 29617

(864) 246-6668

www.environmental-training.com

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>	WWO	WWWO	OSSO	OSSI	OSSE
Wastewater Clarifications, BOD5	1.0	October 29, 1999		X	X		
Wastewater Clarifications, TSS	0.5	October 29, 1999		X	X		
Wonderful World of Widgets, Materials Flow Balance Exercise	1.0	October 29, 1999					

Hampton Roads Sanitation District Apprenticeship Program(HRSD)

Operator experience credit may be given for grades of "C" or better for those plant and maintenance operators enrolled in the HRSD apprenticeship program. The Virginia Board has approved the following training courses and their Training Credits (TC's).

For more information please contact: Debbie Crofford
1434 Air Rail Avenue Virginia Beach, VA 23455 (757) 460-4226

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE
Activated Solids I	3.0	September 7, 2010		X			
Activated Solids II	3.3	September 7, 2010		X			
Bearings and Lubrication	2.1 *	December 10, 1992	X	X	X		
Gearboxes	2.1 *	December 10, 1992	X	X	X		
Incineration	2.1 *	December 10, 1992		X			
Industrial Waste & Regulations	2.1	March 9, 1992		X			
Industrial Waste Regulations (Online)	2.1	October 3, 2012		X			
Instrumentation & Controls	2.1	December 10, 1992	X	X	X		
Introduction to Wastewater	2.1 *	December 10, 1992		X	X		
Treatment/Maintenance I			X	X	X		
V-Belt, Coupling and Drive Alignment*	2.1	December 10, 1992	X	X	X		
Valves *	2.1	March 19, 1992	X	X	X		
Pipe & Pipefitting *	2.1	March 19, 1992	X	X	X		
Preliminary and Primary Treatment*	2.1	December 10, 1992		X			
Odor Control and Chemical Addition*	2.1	December 10, 1992		X	X		
Pumping Systems I	2.1 *	December 10, 1992	X	X	X		
Pumping Systems II	2.1	December 10, 1992	X	X	X		
Shop Prints & Schematics	2.1	March 19, 1992	X	X	X		
Sanitary Chemistry I	2.1 *	December 10, 1992		X			
Sanitary Chemistry II	2.1 *	May 1, 2016		X			
Wastewater Analysis*	2.1 *	December 10, 1992		X			
Solids Dewatering	2.1	December 10, 1992	X	X			
Solids Thickening & Digestion	2.1 *	December 10, 1992		X			
Stream Ecology	2.1	December 10, 1992		X	X		
Stream Ecology (Online)	2.1	March 22, 2013		X	X		
Leadership & Supervision I	2.1	March 19, 1992	X	X	X		
Leadership & Supervision II	2.1	March 19, 1992	X	X	X		
BNR & Tertiary Treatment	2.1	December 10, 1992		X			
Disinfection	2.1 *	December 10, 1992	X	X	X		
Wastewater Treatment I	2.1	December 10, 1992		X			

Wastewater Treatment II	2.1	December 10, 1992		X			
Wastewater Treatment III	2.1*	December 10, 1992		X			
Treatment Plant Math I	2.1	December 10, 1992		X			
Treatment Plant Math II	2.1	December 10, 1992		X			
Treatment Plant Math III	2.1	December 10, 1992		X			

H & V Consulting LLC

For more information please contact: Shawn H. Veltman, Principal Engineer
 106A Landsdowne Street Blacksburg, VA 24060
 (540) 951-0054
 www.hvconsultingcompany.com

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>	<u>WWO</u>	<u>WWWO</u>	<u>OSSO</u>	<u>OSSI</u>	<u>OSSE</u>
Monogram Foods Anaerobic Digestion/Aerobic Treatment System	2.8	January 19, 2017		X			

Heyward Incorporated of Virginia

For more information please contact: Zachary Weeks
 2398 G. Avenue, Newport News, VA 23602
 (804) 965-0086

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>	<u>WWO</u>	<u>WWWO</u>	<u>OSSO</u>	<u>OSSI</u>	<u>OSSE</u>
Regional Pump School	0.6	7-Dec-17		X			

Indiana State University - Office of Independent(Correspondence) Study

For more information please contact: S.R. Wiersteiner, Ph.D.
 Indiana State University
 Office of Independent (Correspondence) Study Terre Haute, IN 47809

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>	<u>WWO</u>	<u>WWWO</u>	<u>OSSO</u>	<u>OSSI</u>
Class I	1.2	April 4, 1996				
Class II	0.75	April 4, 1996				
Class III	0.3	April 4, 1996				

Lewis and Zimmerman Associates, Inc.

For more information please contact: April Marshall
 6110 Executive Boulevard, Suite 512
 Rockville, MD 20852
 (301-984-9509)

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>	<u>WWO</u>	<u>WWWO</u>	<u>OSSO</u>	<u>OSSI</u>
Wastewater Training Program	8.0	October 9, 1997		X		

Logical Concepts DBA OmniSite

For more information please contact: Rebekah Pinkham
494 South Emerson Avenue, Suite E Greenwood, IN 46143
(317) 885-6330

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Technical Training	1.25	June 15, 2012	X	X	X	
Note: This course is approved for waterworks operators and wastewater works operators						

Maryland Center for Environmental Training

For more information please contact: Karen Brandt
8730 Mitchell Road La Plata, MD 20646 (301)934-7500

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Electrical Troubleshooting	0.7	March 11, 2003	X	X	X	X

Michigan State University (MSU)

For more information please contact: Virgil Langworthy
Michigan State University East Lansing, MI 48824-1047 (517) 321-6074

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Maintenance Management in Water and Wastewater	3.0	September 23, 1993	X	X		
Supervisory Management in Water and Wastewater Field	3.0	September 23, 1993	X	X		

Millennium Science & Engineering, Inc.

For more information please contact: Ajit Louis, Training Coordinator
Millennium Science and Engineering, Inc. 1364 Beverly Road, Suite 302
McLean, VA 22101
(703) 734-1090

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Introduction to PLCs	0.5	March 9, 2004	X	X		

North Carolina State Laboratory of Public Health

For more information please contact: Chris Goforth, Workshop Director
North Carolina State Laboratory of Public Health
P.O. Box 28047
Raleigh, NC 27611

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
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Bacteriological Methods for the Analysis of Drinking Water	1	April 16, 2015	X			
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Operator Certification Training, Inc.

For more information please contact: Katie L. Lewis, Administrator
 Operator CERTIFICATION Training, Inc. 180 West Clarendon Street
 Gladstone, OR 97027
 (503) 650-2410

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Disinfection of Public Water Supplies Workshop	0.65	October 29, 1998	X			
Mathematics for Water Plant Operators Workshop,	1.3	October 29, 1998	X			
Water Treatment Technology Review: Groundwater and	0.65	October 29, 1998	X			

Penn State University Conferences and Institutes

For more information please contact: Jeanne Fudrow
 118 Keller Building University Park, PA 16802 (814) 863-6106

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Activated Sludge	0.6	December 13, 2001		X		
BOD and Metabolism	0.3	June 20, 2002		X		
Denitrification	0.3	June 20, 2002		X		
Nitrification	0.3	June 20, 2002		X		
Settleability Problems and Loss of Solids	0.3	June 20, 2002		X		

Peter L. LaMontagne

For more information please contact: Peter L. LaMontagne, PE
 190 North Tamenend Avenue New Britain, PA 18901 (215) 348-7879

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Cost Effective Centrifugation	0.6	March 8, 2004	X	X		

Spotsylvania Vocational Center

For more information please contact: Lee Browning, Apprenticeship
 Coordinator/Asst. Principle 6713 Smith Station Road Spotsylvania, VA 22553
 (703) 891-1784

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Advanced Waterworks Operator's License Review	2.3	October 6, 1994	X			
Basic Waterworks Operator's License Review	2.3	October 6, 1994	X			

Technical Association Of The Pulp And Paper Industry (TAPPI)

For more information please contact: Karen Ventri
 15 Technology Parkway
 Norcross, GA 30092
 (404) 446-1400

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Activated Sludge Plant Operations	1.4	February 9, 1994		X	X	
Activated Sludge Short Course	0.6	July 20, 1994		X	X	

Thomas W. Fore (Tom Fore Water & Wastewater Consulting)

For more information please contact: Thomas W. Fore
 2541 Richmond Highway
 Gladstone, VA 24553
 (434) 944-3445

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Ethics for Water, Wastewater and Onsite Sewage System Professionals	0.3	27-Jul-17	X	X	X	X

Tyson Foods, Inc.

For more information please contact: Herb Suggs
 2210 Oaklawn
 P.O. Box 2020 Springdale, AR 72765

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Industrial Pretreatment	2.9	February 9, 1994		X		

U.S. Poultry & Egg Association

For more information please contact: Paul J. Bredwell III, Vice President
 1530 Cooledge Road
 Tucker, GA 30084
 (678) 514-1973
www.uspoultry.org

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI	OSSE
Poultry Wastewater Operators Training Course	1.5	January 19, 2017		X			

Virginia Department of Environmental Quality (DEQ)

(Formerly Virginia State Water Control Board)

For more information please contact: Wayne Staples, Program Manager

Operator Training & Assistance Water Division

Department of Environmental Quality 629 East Main Street

Richmond, VA 23219

(804) 698-4106

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Advanced Wastewater Licensure Review	2.3	March 24, 1994		X		
Activated Sludge Process Control, Part 1	2.0	March 24, 1994		X		
Activated Sludge Process Control, Part 1 (Observations &	1.4	March 22, 2013		X		
Activated Sludge Process Control, Part 2	1.4	(Revised) January 15, 2016		X		
Activated Sludge Process Control, Part 3 (Microscopic	1.4	March 22, 2013		X		
Activated Sludge Process Control, Part 4 (BNR/EBPR Process	1.4	February 29, 2016		X		
Basic Lab Skills	1.0	March 7, 2007		X		
Basic Wastewater Licensure Review	2.3	March 24, 1994		X		
Chemical Oxygen Demand Workshop	0.5	October 3, 1996		X	X	
D.O. & Biochemical Oxygen Demand Workshop	1.0	January 5, 1995		X	X	
Introduction to Biological Nutrient Removal	0.7	(Revised) January 15, 2016		X		
Nutrient General Permit Reporting	0.3	December 4, 2008		X		
Operator In-Service Training	0.05	March 24, 1994		X		
Package Treatment Plant Operation Workshop	1.3	September 9, 2003		X		
Sampling & Testing for Small Wastewater Treatment Plants	1.0	April 15, 1999		X		
Total & Volatile Suspended Solids Sampling and Testing	0.5	July 11, 1996		X		
Total Residual Chlorine & Ph Workshop	1.0	January 5, 1995		X		
VPDES Permit Recordkeeping and Reporting	0.35	September 14, 2005		X		
Wastewater Math for Operators	2.0	September 14, 2005		X		
Wastewater Operator Correspondence Course	4.0	March 24, 1994		X		
Wastewater Sampling & Testing, Ammonia & TKN Workshop	1.0	October 5, 1995		X		
Wastewater Sampling & Testing: Ammonia Nitrogen	0.5	April 9, 1998		X		
Wastewater Sampling & Testing Nitrate & Nitrite Nitrogen	1.0	June 24, 1999		X		

Wastewater Sampling & Testing: Phosphorus	1.0	June 8, 2010		X		
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**Virginia Department of Health (VDH) – Lexington
Environmental, Health Engineering Field Office**

For more information please contact: Mr. Dough Caldwell
Virginia Department of Health Lexington Environmental Health 1311 Walker Street
Lexington, VA 24450
(703) 463-3892

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Water Storage Tank Management Seminar	0.5	April 6, 1995	X			

Virginia Rural Water Association

For more information please contact: Andy Crocker
2138 Sycamore Avenue Buena Vista, VA 24416 (540) 261-7178
(540) 261-2465 (Fax)

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Clean Water Act	0.6	June 15, 1993	X	X		
Collection of Drinking Water Samples	0.3	January 8, 1998	X			
Corrosion Control & Lead and Copper Rule	0.5	September 23, 1993	X			
Cross-Connection & Backflow Prevention	0.4	July 20, 1994	X	X	X	
Establishing a Preventive Maintenance Management	0.3	June 15, 2000	X	X	X	
Gas Chlorination Operation, Management & Repair	0.5	September 23, 1993	X	X		
Safe Drinking Water	0.5	July 21, 1993	X			
Steel Storage Tank Inspection & Maintenance	0.5	October 5, 1995	X			
Wastewater Works Licensing Examination Preparation	0.5	July 21, 1993	X			
Waterworks Operator Licensing Examination Preparation	0.6	July 20, 1994		X		

Virginia Tech Waterworks/Wastewater Works
Annual Operators Short School^o

For more information on program content: For more information on program registration:

Dr. Gregory Boardman

Virginia Tech Professor of Civil & Environmental Engineering Blacksburg, VA 24061 (540) 231-1376 (540) 231-7916 (Fax) Gboard.vt.edu	Colleen Bartos, Program Coordinator Virginia Tech Continuing and Professional Education Blacksburg, VA 24061 (540) 231-7832 (540) 231-9886 (Fax)
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cbartos@vt.edu

Course	TC's	WWO	WWWO	OSSO	OSSI
Water/Waste Operator Short Course Level 1	3.3	X	X		
Water/Waste Operator Short Course Level 2	3.3	X	X		
Water/Waste Operator Short Course Level 3	3.3	X	X		
Water/Waste Operator Short Course Level 4 1	3.3		X	X	
Small Onsite System Course 1	3.3			X	

^o Pursuant to Board Regulation 18 VAC 160-20-150, training courses provided by schools and universities approved by the State Council of Higher Education of Virginia are automatically approved by the Board. Prior courses incorporated in the Virginia Tech Short School were approved July 21, 1993.

D.R. Wanless and Associates LLC

For more information please contact: Dennis R. Wanless
427 Shadowbrook Drive
Burlington, NC 27215
(336) 538-2262

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Aeration Principles, Applications, and Technologies	0.4	26-Oct-17	X	X		

Water Environment Federation

For more information please contact: Steven Wisdom
601 Wythe Street
Alexandria, VA 22314-1994
(703) 684-2400

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
Operations Training/ Activated Sludge/Process Control	2.0	September 21, 2000		X		
Operations Training/ Pumps Operation and Maintenance	2.0	June 15, 2000	X	X	X	
Operations Training/ Solids Handling	1.5	March 21, 2002		X		
Operation Training/ Wastewater Treatment	4.0	June 15, 2000		X		

Water Pollution Biology

For more information please contact:

Michael H. Gerardi, Wastewater Biologist

196 Hemlock Lane

Linden, PA 17744

(570) 398-7260

Course	TC's	Date of Approval	WWO	WWWO	OSSO	OSSI
A Correspondence Course in Wastewater Microbiology: Nitrification in the	1.0	October 29, 1998		X		
Wastewater Microbiology	0.4	March 22, 2001		X	X	