WWWATER

Water/Wastewater Assistance, Training
& Environmental Resources

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Class #	LT100 (WWTPO&M)
Class Name	Wastewater Treatment Plant Operation and Maintenance
Summary	This 18-week class is for Wastewater Treatment Facility operators and collection system personnel who want to learn more about operation and maintenance of Wastewater Treatment Facilities. Topics such as CWA, NPDES, DO, BOD, BNR, preliminary and primary treatment, secondary treatment, collection systems, lift stations, biosolids, maintenance, basic and applied math and lab will be discussed. This course will help to prepare wastewater and collection system personnel for certification, as well as improve their knowledge and help them to work safely.
KDHE/ABC Credits/Points	54 hours/1.5 points
Target Audience	Any and all personnel involved with wastewater treatment and/or collection systems.

Class Description

The long-term Wastewater Treatment class is based on the Wastewater Treatment Operations textbooks from California State University. The class is not only for wastewater treatment facility operators, but also for collections personnel, city superintendents, public works directors, and any other personnel who work with wastewater treatment plants. The 18-week course is taught in the classroom one afternoon a week usually from 1:00 pm – 5:00 pm.

Wasting at an Activated Sludge Facility

Two major characteristics of the course that set it above other training providers are the *PIT Stops* (*Personalized Instruction and Training*) and the *Virtual Learning Center* (VLC). *PIT Stops* are sessions where we will do customized training, either at your facility or somewhere else. PIT Stops are not required, but are available to the student who wants to learn more than what is taught in the classroom. The *Virtual Learning Center* is an online portal that provides students access to their grades and other supplemental material. It is also the place where the student will take tests and will communicate with the instructor and other students. There is no charge for PIT Stops or the Virtual Learning Center—they are included in the price of the course.

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PIT Stops
Personalized Instruction and Training

One of the features of WWWATER training is the *PIT Stop.* These are usually day-long opportunities, and are great for the student who wants to go "above and beyond" normal classroom activities. PIT Stops give you the possibility for customized, individual learning experiences that are as varied as you make them! They give you actual hands-on experience while under the guidance and instruction of the teacher. They are a great way for timid students, or those that are new to the industry, to learn new

During *PIT Stops* students learn how to use equipment, such as this Dissolved Oxygen meter.

things and have questions answered in a "safe" environment—a one-on-one situation.

PIT Stops usually occur at your place of work, but can be used for such things as visiting other plants to get better acquainted with different treatment processes, or to see how similar processes are operated. This gives you access to other facilities and operators, and gives you a chance to see things "outside of your world".

One of the most common PIT Stops, and

Virtual Learning Center (VLC)
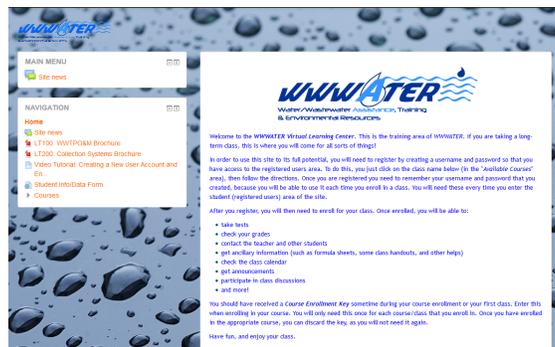## Online grade book and test portal

One of the features of the long term class is the *Virtual Learning Center (VLC).* It is a website portal that provides an online grade book (access to grades is always available). The VLC will also be the place where you take most of your tests, using any computer that is internet enabled (including tablets and even smartphones!). This opens up numerous possibilities by providing access to tests and grades 24 hours a day, seven days a week, from any computer with internet access.

The VLC also allows you to see your grade instantly upon completion of most tests. Instead of waiting a week while a test gets graded, the results are available instantly; thereby allowing you to study and retake your test much sooner-while the information is still fresh in your mind. The VLC also presents other possibilities, such as multimedia (video, audio, photographs, and charts and tables).

However, the VLC has other strengths beyond just testing and an online grade book. Through forums and other means, there will be opportunities for you to interact not only with the teacher, but with other

The *Virtual Learning Center* Main screen

classmates as well. Extra, supplemental downloads will be offered also, giving you access to materials not given out in class.

The VLC will also be the place where you receive announcements, such as class cancellations (due to weather or other conditions), and schedule or venue changes. This will be the "go to" area for communication with the class and the instructor, as well as receiving extra information above and beyond that presented in class. This allows students who are separated by many miles access to resources that would otherwise be difficult or impossible to achieve, thereby creating a coherent, unified class structure.

In order to use the VLC, you will need access to a modern computer with a working internet connection as well as an email address that is checked regularly. You will be responsible for creating your own user account, username and password, which you will need in order to access the VLC.
All of the services of the VLC are available at no cost to you!

The only thing worse than training somebody and having them leave is not training them and having them stay.

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The course is worth 1.5 points or 54 hours for KDHE (and ABC) certification. You must also meet other requirements to take a certification exam. We cannot offer these as part of the course – KDHE and ABC are in charge of certifications in Kansas. However, we work closely with them. This course will apply towards KDHE Wastewater Treatment Plant Operators Certification (Small Systems, and Class I-IV) and the ABC Collection Systems exams. Remember that KDHE does not require certification for Wastewater Collection Systems Operators, nor do they give exams for them. (ABC is responsible for these certification exams.) However, many municipalities require the certification for employment, and others don't necessarily require it, but it is highly recommended. KDHE does certify water and wastewater treatment plant operators, and gives exams for water and wastewater operators.

Bring pencils/pens, paper and a calculator. You will receive handouts most weeks during class.

If you have any other questions, please contact WWWATER at the contacts on the website.

Tentative Schedule—this can change and probably will

	Session	Topic
Section Test 1	1	**Introduction**
	2	**CWA, NPDES, Operator Certification**
	3	**Safety (Trenching, Lockout/Tagout, Confined Space, H2S)**
Section Test 2	4	**WW Char., Environ. Effects of WW, & Intro. to WW collection**
	5	**Basic and Applied Math**
	6	**Pumps and Pumping**
	7	**Facility Tour**
Section Test 3	8	**LAB 1: WW Sampling, pH and TSS**
	9	**LAB 2: DO, BOD & Flow Measurement**
	10	**Preliminary and Primary Treatment**
	11	**Introduction to Secondary Treatment and Biological Nutrient Removal**
	12	**Activated Sludge Process**
	13	**Activated Sludge Facility Tour**
	14	**Activated Sludge2-tour de-briefing and calculations**
	15	**Stabilization Ponds & Disinfection** **Math Packet is due**
	16	**Sludge/Biosolids**
	17	**Review and Math**
	18	**Final Exam**

Final Exam covers everything

Class subjects and arrangements are subject to change.

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one that is highly recommended, is the "*Plant Familiarization Tour*". The goal of this PIT Stop is for you to become more familiar with your facility and equipment. This gives the Instructor a chance to see where you need help and to give you the knowledge you need about how your plant and its equipment works.

Other popular PIT Stops are: math, creating a wasting spreadsheet, learning proper sampling techniques, performing lab tests, smoke testing the collection systems, lift stations, lesson and course help, and more.

> " I learned more about how my plant runs in this day-long *PIT Stop* than I have in the two years I have been at my plant.

PIT Stops occur during the week and are scheduled by you and the Instructor, and must be approved in advance. Although it is your responsibility to supply any parts, materials, tools or equipment needed, all of the services of the PIT Stop are available at no cost to you!

Some Testimonials from Students:

- The instructor, Dale Vanderhoof is a very knowledgeable and capable instructor. I enjoyed his angle on the wastewater world.
- Dale did a very fine job explaining the collections and treatment plants. He loves his job and would do anything to help you further your career.
- He is very versatile in working with everyone on their own level.

How to register

1. Follow the link below to go to the Long-term Class page on the website, or use any app that can read QR codes and scan the QR code below.
   - Be sure to read all information—especially the information in red— before proceeding.
2. Click on the link of the appropriate Class Title.
   This takes you to the "*At A Glance*" page for your chosen class.
3. Next, double-check the information (like the class title, dates and location) to be sure you have chosen the correct one.
4. Then click on the appropriate link to register and pay

Links:
Long-term class info: http://www.wwwater.org/longterm.html
Website: http://www.wwwater.org
Email: dale@wwwater.org

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