



Class #	LT100 (WWTPO&M)
Class Name	Wastewater Treatment Plant Operation and Maintenance
Summary	<p>This 16-18-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.</p> <p>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.</p>
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 16-18-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* (formerly called JSIs), 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 the student the possibility for customized, individual learning experiences that are as varied as each student makes them. They give the student actual hands-on experience while under the guidance and instruction of the teacher. They are a great way for



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

timid students, or those that are new to the industry, to learn new things and have questions answered in a “safe” environment—a one-on-one situation.

PIT Stops usually occur at the student’s 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 the student access to other facilities and operators, and gives them a chance to see things “outside of their world”.

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Virtual Learning Center (VLC)

Online grade book and test portal

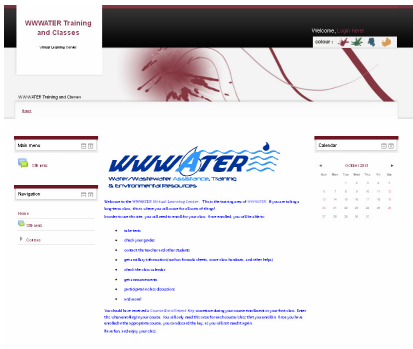
One of the features of the long term class is the *Virtual Learning Center (VLC)*. It is a website portal that provides an online grade book (access to grades is always available). The VLC will also be the place where students take most of their tests, using any computer that is internet enabled (including 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 the student to see their grade instantly upon completion of most tests. Instead of waiting a week while a test gets graded, the results are available instantly; thereby allowing the student to study and retake their test much sooner while the information is still fresh in their minds. 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 the student to interact not only with the teacher, but with

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

The VLC will also be the place where students 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.



The *Virtual Learning Center* Main screen

In order to use the VLC, students will need access to a modern computer with a working internet connection as well as an email address that is checked regularly. They will be responsible for creating their own user account, username and password, which they will need in order to access the VLC.

All of the services of the VLC are available at no cost to the student.



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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	
Week	Topic
1	Introduction
2	CWA, NPDES
3	Safety (Trenching, Lockout/Tagout, Confined Space, H2S)
4	WW Char., Environ. Effects of WW, & Intro. to WW collection
5	Basic and Applied Math
6	Pumps and Pumping
7	LAB: WW Sampling, pH and TSS
8	LAB: DO, BOD & Flow Measurement
9	Preliminary and Primary Treatment
10	Introduction to Secondary Treatment and Biological Nutrient Removal
11	Facility Tour
12	Activated Sludge Process
13	Activated Sludge Facility Tour
14	Stabilization Ponds & Disinfection
15	Sludge/Biosolids
16	Review and Math
17	Final Exam
Class topics and arrangements are subject to change.	



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One of the most common PIT Stops, and one the instructor recommends, is the “*Plant Familiarization Tour*”. The goal of this PIT Stop is for the student to become more familiar with his or her facility and equipment. This gives the Instructor a chance to see where the student needs help and to give the student the knowledge they need about how their plant and its equipment works.

“ 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. ”

wasting spreadsheet, learning proper sampling techniques, performing lab tests, smoke testing the collection systems, lift stations, lesson and course help, and more.

PIT Stops occur during the week and are scheduled by the student and the Instructor, and must be

approved in advance. Although it is the student’s responsibility to supply any parts, materials, tools or equipment needed, all of the services of the PIT Stop are available at no cost to the student.

Other popular PIT Stops are: math, creating a

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

