Class #	LT200
Class Name	Wastewater Collection Systems Operation and Maintenance
Summary	This 16-18-week class is for collection system and Wastewater Treatment Facility operators and personnel who want to learn more about operation and maintenance of Wastewater Collection Systems. Topics such as design, operation, safety, different types of collection systems, lift stations, pump drawdowns, wastewater characteristics, treatment units, maintenance, and basic and applied math 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. There are questions that cover collection systems on the wastewater treatment certification exams also.

Class Description

The long-term Collection Systems class is based on the Collection Systems textbooks from California State University. The class is not only for collection systems operators, but also for wastewater treatment personnel, city superintendents, public works directors, and any other personnel who work with collection systems. The 16-18-week course is taught in the classroom one afternoon a week usually from 1:00 pm – 5:00 pm.

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

Smoke testing the collection system during a PIT Stop

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 timid

A sewer camera in a manhole during a PIT Stop

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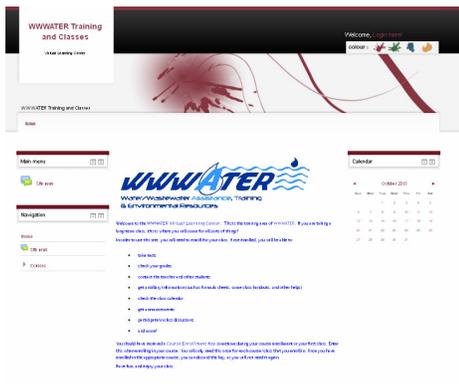
Virtual Learning Center (VLC)
Online grade book and test portal

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 *Virtual Learning Center* Main screen

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.

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.

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. However, many municipalities require the certification for employment, and others don't necessarily require it, but it is highly recommended. The Collection Systems Certification is a voluntary certification which is given by the ABC (Association of Boards of Certification), which also certifies water distribution, lab, biosolids and maintenance personnel. 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.

Tentative Schedule—this can change and probably will	
Week	**Topic**
1	Course Introduction, Importance of Collection Systems, Certification, SSOs and CSOs, I&I
2	CS components, appurtenances and flow
3	Math 1
4	Safety 1 (Confined Space and LOTO)
5	Safety 2 (Trenching & Shoring, Street)
6	Lift Stations 1
7	Lift Stations 2
8	Math 2
9	Midterm
10	TV, inspection, cleaning 2, Manhole Rehab and Sewer Rehab
11	Wastewater Treatment
12	Wastewater Treatment Facility Tour
13	Computers-record-keeping, data, etc
14	Collection System Tour and/or Wastewater Treatment Facility Tour 2
15	Review
16	Finals
This schedule is TENTATIVE, and may change as necessary.	

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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 wastewater treatment facility. This gives the Instructor a chance to see where the student needs help and to give the student knowledge they need about how their wastewater treatment plant and its equipment works, and how it affects, and is affected, by the collection system.

> " Dale always spent the necessary time to cover our concerns, and other issues so that I could understand them and apply them to my work.

Other popular PIT Stops include: math, 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.

Some Testimonials from Students:

- Dale has a passion for teaching and spreading knowledge to others. You can see this easily in his mannerism alone.
- I will sign up for any classes he is teaching in the future. His knowledge and effort is A+. You can see when you don't understand something or not grabbing the concept that he wants you to understand.

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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