

CEU COURSE DESCRIPTION

ONSITE 202 CEU TRAINING COURSE - 18 HOURS

OESAC Onsite Installer, O&M Approval #3933 Expires 5/9/2022

This advanced CEU course is designed for the continuing education, knowledge and enhancement of onsite operators, installers and service providers. The target audience for this course is the person interested in working in septic industry or septic treatment facility and/or wishing to maintain CEUs for certification license or to learn how to do the job safely and effectively, and/or to meet education needs for promotion. This is not a comprehensive onsite (septic) facility, wastewater treatment or collections manual.

This training course contains overview information on septic treatment technologies, installation practices, pumping, and past performance of various methods. The information in the following chapters (see the following pages) provides an operational framework for developing and improving OWTS (septic) program structure, criteria, alternative designs, performance requirements, SCADA implementation to construction safety practices.

The first three chapters describe the importance of planning to ensure that system densities are appropriate for prevailing hydrologic and geologic conditions, performance requirements to guide system design, wastewater characterization to accurately predict waste strength and flows, site evaluations that identify appropriate design and performance boundaries, technology selection to ensure that performance requirements are met, and management activities that govern installation, operation, maintenance, and remediation of failed systems.

Course Reference and Purpose

Onsite wastewater treatment systems collect, treat, and release about 5 billion gallons of treated effluent per day from an estimated 30 million homes, businesses, and recreational facilities nationwide. These systems, defined in this course manual as those serving fewer than 20 people, include treatment units for both individual buildings and small clusters of buildings connected to a common treatment system. Recognition of the impacts of onsite systems on ground water and surface water quality (e.g., nitrate and bacteria contamination, nutrient inputs to surface waters) has increased interest in optimizing the systems' performance.

Public health and environmental protection officials now acknowledge that onsite systems are not just temporary installations that will be replaced eventually by centralized sewage treatment services, but permanent approaches to treating wastewater for release and reuse in the environment. Onsite systems are recognized as potentially viable, low-cost, long-term, decentralized approaches to wastewater treatment if they are planned, designed, installed, operated, and maintained properly. NOTE: In addition to existing state and local oversight, decentralized wastewater treatment systems that serve more than 20 people are subject to state and/or federal law.

Course Statement of Need

This course is intended to provide an advanced understanding of septic facilities installation and maintenance concepts and related concerns for all those involved with implementing or working with subsurface wastewater infiltration construction and inspection procedures. It is essential that all onsite operators learn to properly identify and deal with various types of septic devices, method, and failures.

You will learn the CWA rule concerning violations concerning septic collections, point source contamination, various septage contaminants, proper sampling techniques and disposal methods.

Prerequisites: None

CEU Course Learning Objectives

Knowledge obtained by this CEU Course and the approximately average times the student will spend on each subject. This includes assignment reading, glossary review, and final examination.

Chapter 1: You will learn the basics of onsite sewage systems. At the end of this section, you the student will be able to understand and describe various onsite treatments.

Chapter 2: At the end of this section, you the student will be able to understand and describe onsite septic tanks, leach fields, impacts on groundwater and maintenance.

Chapter 3: At the end of this section, you the student will be able to understand subsurface wastewater infiltration construction and inspection procedures.

Chapter 4: At the end of this section, you the student will be able to understand and describe Clean Water Act's rule concerning collections and the rational for proper maintenance.

Chapter 5: At the end of this section, you the student will be able to understand and describe various wastewater contaminants, sampling and related regulations.

Chapter 6: The student will be able to understand and describe the purpose of SCADA and the basic operation of SCADA systems.

Chapter 7: At the end of this section, you the student will be able to understand and describe confined space, excavation and related construction safety rules.

Detailed CEU Course Objectives

Chapter 1 - Section Focus: You will learn the basics of onsite sewage systems. At the end of this section, you the student will be able to understand and describe various onsite treatments. There is a post quiz at the end of this section to review your comprehension and a final examination in the Assignment for your contact hours. 210 Minutes

Chapter 1 – Scope/Background: Onsite Sewage System Facilities (OSSF) are wastewater systems designed to treat and dispose of effluent on the same property that produces the wastewater. A septic tank and drainfield combination is a fairly common type of onsite sewage facility in the United States. OSSFs account for approximately 25% of all domestic wastewater treatment in the United States. Onsite sewage facilities may also be based on small-scale aerobic and biofilter units, membrane bioreactors or sequencing batch reactors. These can be thought of as scaled down versions of municipal sewage treatment plants.

Chapter 1 – Onsite Sewage Systems Review Topics

Decentralized Wastewater Treatment Systems	Aerobic Treatment Units
Sewerage System Types	Media Filters
EPA Regulation	Submerged Flow Wetlands
Onsite Process Options	Cluster System Applications
Commonly Found Septic Systems	Pressure and Drip Systems Introduction
Basic Onsite Treatment Process	Advanced Systems
Septic System Basics	Advanced Systems Components
Pressure Distribution	Residual Section
Conventional Septic System	Septage Management
Septic Tank Operation	Pumping Frequency Chart
Pretreatment Components	Federal Septage Rules
Elevated Mound Systems	Chapter 1- Post Quiz

Chapter 2 - Section Focus: You will learn the basics of onsite septic tanks and simple inspection procedures. At the end of this section, you the student will be able to understand and describe onsite septic tanks, leach fields, impacts on groundwater and maintenance. There is a post quiz at the end of this section to review your comprehension and a final examination in the Assignment for your contact hours. 140 Minutes

Chapter 2 – Scope/Background: Several factors should be considered when choosing the type of onsite system for a site including: soil/site limitations, available space, operation and maintenance (O & M) requirements, initial costs as well as O & M costs, landscape disturbance, and the owners' preferences and ability to manage the system.

Chapter 2- Onsite Operation and Maintenance Section Topics

Septic Failures	Clustered Treatment System Maintenance
Symptoms of Failures	Management Considerations
Regular Maintenance Introduction	Operating Permits
Septic System Evaluation	Impacts of Effluent on Groundwater
Two Types of Septic Inspections	Improving OSSF Performance
Sludge and Scum Accumulation	Performance Based Standards
Leach Field Inspection	Summary
Aerobic Treatment Introduction	Chapter 2- Post Quiz

Chapter 3 - Section Focus: You will learn the basics of subsurface wastewater infiltration construction and inspection procedures. At the end of this section, you the student will be able to understand subsurface wastewater infiltration construction and inspection procedures. There is a post quiz at the end of this section to review your comprehension and a final examination in the Assignment for your contact hours. 190 Minutes

Chapter 3 – Scope/Background: Subsurface wastewater infiltration systems are used to distribute and treat wastewater that has yet to reach a treatment plant. Each systems contains distribution pipes, permeable soil or sand to lay the pipes in, and a impervious wastewater mat to separate the unsaturated soil from the permeable sand and pipes above.

Chapter 3 – Subsurface Wastewater Infiltration Construction Topics

Site Preparation Practices	Infiltration Surface Loading Limitations
Inspector Qualifications	Organic Loading Rates
Installer Training	Infiltration Surface
Construction Phases	Wastewater Distribution
Soil Investigation Section	Gravity Flow
Soil Texture	Graveless Wastewater Systems
Sampling Soils	Vadose Zone
Site Limitations	Dosed Flow Distribution
Soil Absorption	Pressure Manifold
System Design Standards	Dripline Pressure Networks
Perc Terms Associated with Saturation	Layout of Drip Systems
Septic Tank Construction	SWIS Media
Bedding and Backfilling	Site Protection
Separation Distance from Limiting Conditions	Summary
Subsurface Drainage	Chapter 3- Post Quiz

Chapter 4 - Section Focus: You will learn the basics of the wastewater collection system, CWA rules, inspection and maintenance procedures. At the end of this section, you the student will be able to understand and describe Clean Water Act's rule concerning collections and the rational for proper maintenance. There is a post quiz at the end of this section to review your comprehension and a final examination in the Assignment for your contact hours. 170 Minutes

Chapter 4 – Scope/Background: A sewer collection system includes everything except the septic system facility (cluster system). All lines lift stations, pump stations, manholes, and anything that sewage touches on its way to the septic facility. Generally, the cluster system or homeowner is responsible for maintaining the collection system from the time the sewage leaves the lateral line and enters the main.

Chapter 4 – Collections System Topics

Lamping	Low Pressure Sewer Systems
Understanding the Gravity Sewer System	Valve Pit and Vacuum Lines
Flow Measurements	Sewer Line Mapping
Flow Capacity	Grease Section
Infiltration and Inflow	Grease Interceptor
Sewer System Testing	Common Sewer Problems
Sewer System Inspection	Sewer Technology Uses
Manhole Section	Sewer Cleaning Technology
Tree Roots	Maintenance Advantages and Disadvantages
Smoking Out Sewer Leaks	Operation and Maintenance Summary
Sewer Cleaning	

Chapter 5 - Section Focus: You will learn the composition of septage/wastewater including various contaminants like nitrates. These areas of concern to operators who run a large, industrial or cluster onsite systems. At the end of this section, you the student will be able to understand and describe various wastewater contaminants, sampling and related regulations. There is a post quiz at the end of this section to review your comprehension and a final examination in the Assignment for your contact hours. 230 Minutes

Chapter 5 - Scope/Background: Nitrate, phosphorus, pathogens, and other contaminants are present in significant concentrations in most wastewaters treated by onsite systems. Although most can be removed to acceptable levels under optimal system operational and performance conditions, some may remain in the effluent exiting the system.

Chapter 5 – Wastewater/Septage Composition Topics

Wastewater Component Key Terms	Protozoan Diseases
Hydrogen Sulfide	Cryptosporidium
Nutrients	Giardia Lamblia
Organic Matter	Entamoeba Histolytica
Organic Carbon	Vorticella
Oil and Grease	Rotifer
Inorganics	Bacteria Section
Total Dissolved Solids	Bacteria Glossary
Total Suspended Solids	Salmonella
pH Testing Section	Shigella Dysenteriae
Strong Acids and Bases	E. Coli Section
Bacteria Section	Chapter 5 Summary
Protozoa Section	Chapter 5 – Post Quiz

Chapter 6 - Section Focus: You will learn the basics of the SCADA (or supervisory control and data acquisition) system. These areas are a concern to operators who run a large, industrial or cluster onsite system. The student will be able to understand and describe the purpose of SCADA and the basic operation of SCADA systems.

There is a post quiz at the end of this section to review your comprehension and a final examination in the Assignment for your contact hours. 60 Minutes

Chapter 6 – Scope/Background: There are a few cluster or commercial septic systems that utilize SCADA to control and maintain efficiency, distribute data for smarter decisions, and communicate system issues to help mitigate downtime use SCADA systems.

Chapter 6- SCADA Introduction Topics

SCADA Explained	Operational Philosophy
SCADA Concepts	PLC/RTV Programming
SCADA Considerations	SCADA Architectures
SCADA Benefits	Community Infrastructures
Human Machine Interface Introduction	SCADA Security Issues
Remote Terminal Unit	Chapter 6 - Post Quiz

Chapter 7 - Section Focus: You will learn the basics of a septic/collections safety program. At the end of this section, you the student will be able to understand and describe confined space, excavation and related construction safety rules. There is a post quiz at the end of this section to review your comprehension and a final examination in the Assignment for your contact hours. 190 Minutes

Chapter 7 – Scope/Background: All onsite operators will at some time will enter a confined space or inside a trench that is 5 feet deep or greater. Many onsite operators have chosen poorly in that they will not implement many required safety procedures in lieu of time or money, and many onsite operators work alone. One of the most deadliest onsite operator duties will revolve around confined space and lack of oxygen or in the presence of hydrogen sulfide gas. Unbelievably, we have had many onsite operators that will argue that confined spaces and trench safety is not needed in the septic industry.

Chapter 7- Safety Program Section Topics

Confined Space Program Requirements	Hydrogen Sulfide
Confined Space Program Purpose	H2S Chronic Effects
Confined Space Hazards	Trench Safety Section
Tanks and Sumps	Excavation Facts
Unusual Conditions	Competent Person
Permit Required Confined Space	Excavation Protection Systems
Permit Example	Trench Safety Guidelines
Confined Space Duties	Hazards
Entry Procedures	Excavation Safety Plans
Charge of Entry	Soil Classifications
Hazard Controls	Sloping
Permit Required General Rules	Inspections
Confined Space Required Training	Checklist
Employer Responsibility	One Call Center
Other Hazards	Natural Gas Dangers
Atmospheric Testing	Safety Glossary
Corrosive Atmospheres	Chapter 7 – Post Quiz

Final Examination for Credit

Opportunity to pass the final comprehensive examination is limited to three attempts per course enrollment.

Specific Course Goals and Timed Outcomes (Beta Testing)

Twenty-eight students were selected and given a task assignment survey in which to track their times on the above learning objectives (course content) and utilized a multiple choice answer sheet to complete their final assignment. All students were given 30 days to complete this assignment and survey. Beta testing performed January 2018, Rusty Randall, Proctor. (MACI)

Twenty-one students successfully completed this assignment out of twenty-eight students. The students were tested and the average time necessary to complete each task was recorded in the objectives and timed outcome section. In the above timed outcome section area, the tasks were measured using times spent on each specific objective goal and final assignment grading of 70% and higher.

Accreditation Formula for Figuring CEU Credit**

The results of beta testing were used in conjunction with a formula to determine average student time for accreditation purposes for intended audiences. This formula may not work for unintended audiences.

1 page of text = 2 minutes of student time.

1 word practice problem = 1 minute of student time.

1 word quiz/exam question = 1 minute of student time.

Course Page Count Total

450 page of text (Not including assignment) = 900 pages equals 15 hours.

400 exam questions = 6.60 hours of student time

105 practice question = 1.75 hours of student time

Total of 23 Hours. We are asking for 18 hours of credit.

**CEU was awarded based on guidelines established by the International Association of Continuing Education and Training (IACET).

Assessment Implications

Core tasks have been statistically analyzed then reviewed and edited by the Advisory Committee, SME Experts. These tasks now form a distinct definition of the course and assessment content. The emphasis for most of the levels of operation would be found in the duty/functions discussion bellow. To recap, bodies of knowledge and concepts that support the understanding and valid performance of the following duty/functions should be taught first. Based on the job-task survey data and beta-testing, the most useful parts of the course are beneficial for the following categories:

Suggested/Recommended for

Onsite Installers- Operators

Service Providers

O&M

Wastewater Treatment Operators Level 1 to 4

Course Author

Melissa Durbin

This course was co-authored by Melissa Durbin; she has over 25 years of wastewater treatment teaching experience as a college instructor. Melissa has written the several nationally accepted wastewater treatment manuals since 2001. This course has been accepted in most States for continuing education credit. Melissa has taught approximately 10,000 students about water/wastewater treatment, disinfection and related classes. She will be available to answer questions relating this course.

Beta Testing Group Statistics

Forty students were originally selected for this assignment. None of the test group received credit for their assignment. Seven students failed the final examination. Twelve students did not complete the reading assignment. The average times were based upon the outcome of twenty-one successful students. The average course completion time was 19.4 hours, with the slowest time of 26 hours. The average passing score was 85 percent. The most common complaint was too much reading and too many questions when compared to similar course materials.

Beta Testing Survey Results

1. The difficulty of your course.

Very Easy 0 1 2 3 4 5 Very Difficult

2. Please rate the difficulty of the testing process.

Very Easy 0 1 2 3 4 5 Very Difficult

3. Please rate the subject matter on the exam to your actual field or work.

Very Similar 0 1 2 3 4 5 Very Different

Task Analysis and Training Needs Assessment Process Information Gathering

Task Analysis and Training Needs Assessments have been conducted to determine or set Needs-To-Know for the basis of TLC's continuing education courses. The following is a listing of some of those who have conducted extensive valid studies from which TLC has based the continuing education program upon: the Environmental Protection Agency (EPA), the Arizona Department of Environmental Quality (ADEQ), the Texas Commission of Environmental Quality (TCEQ), Pennsylvania Dept of Environmental Protection (PDEP) and the Association of Boards of Certification (ABC).

TLC has primary used Training Provider Manual for the Pennsylvania Water and Wastewater System Operator Training Program for course goal setting and learning objectives for all three training formats; conventional classroom, distance paper based and web based training.

The titles or names of subjects (Learning Objectives) may be changed for readability purposes. Some of the terms used in this document may be part of a copyrighted adult learning assessment process and in these cases, we utilize generic terminology. The needs assessment/survey maintains our training and education materials criteria. Assessments and changes are performed based on changes in technology, evaluations of the students, regulatory changes and editorial corrections. Most of this information is considered intellectual property and may not be owned by TLC but by third –parties. All of TLC's information is proprietary.

ADDIE

TLC utilizes a five-phase instructional design model consisting of Analysis, Design, Development, Implementation, and Evaluation for our continuing education courses. Each course design step has an outcome that feeds into the next step in the sequence. The five phases of ADDIE are as follows:

ANALYSIS

During the Training Needs Assessment Process Information Gathering Analysis phase, the course designer(s)(see Subject Matter Experts and Contributing Editors) identifies the learning need, the goals and objectives, the student's needs, existing knowledge, Course Statement of Need, and any other relevant characteristics (State or Federal Need-to-Know) and to ensure that students are learning what is relevant for their job.

DESIGN

This is the systematic process of specifying learning objectives from the Training Needs with a focus on Bloom's Taxonomy. A detailed storyboard following the Needs Assessment/Survey and/or Course Statement of Need will determine the course content.

DEVELOPMENT

The actual creation (production) of the training content will begin based upon the Design phase using Bloom's Taxonomy. At this time, a decision is made to proceed or table the course.

IMPLEMENTATION

During implementation, the Alpha testing plan is put into action and a procedure for course and/or assessment revision is implemented. These course materials and assessments are delivered or distributed to the student group. After delivery, the effectiveness of the training materials is evaluated in Beta testing phase. All of our courses have extensive Alpha and Beta testing to ensure job relevancy, correct information and course learning objectives are met.

EVALUATION

This phase consists of (1) formative and (2) summative evaluation from Alpha and Beta testing. Formative evaluation is present in each stage of the ADDIE process. Summative evaluation consists of tests designed for criterion-related referenced items and providing opportunities for feedback from the students and proctor.

Ongoing Course Evaluation: Administrative and instructional staff will collect all student concerns (verbal, written and surveys) and distribute these to TLC Administrative personnel for evaluation and course corrections. Course and/or Assessment revisions are made as necessary.

Precept-Based (Micro-Learning) Training Course

TLC's training courses are based upon a form of induction training, made of topical and technical precepts that are discovered in the Needs Assessment/Survey and/or Training Needs Assessment Process Information Gathering. The training topics or learning objectives are made up of "micro-content" or "precepts" – or small chunks of information that can be easily digested. These bite-size pieces of technical information are considered to be one of the most effective ways of teaching students new or important information (regulatory or technical) because it helps the mind retain knowledge easier.

Micro-learning or precept-based training doesn't rely on the student to process a large amount of information before breaking it down. Our method includes short modules with clearly defined learning goals for each section. This method allows a student to hone in on a particular skill, then given the opportunity to exhibit their knowledge in the final assessment (assignment).

Course Training/Assessment Needs Methodology

Technical Learning College identified training/assessment needs by placing identifying them in two categories; internal and external.

Internal Methods include:

- ✓ Observation
- ✓ Interviews
- ✓ Instruments: Perception instruments and Knowledge based assessments
- ✓ Student records and reports
- ✓ Group problem analysis (Classroom or Seminars)
- ✓ Performance or Survey appraisals

External Methods include:

- ✓ Outside consultants (Completion)
- ✓ Government Certification Reviews (Training Needs)
- ✓ Records and reports from other agencies

The needs assessment/survey maintains our training and education materials criteria. Assessments and course material changes are performed based on changes in technology, evaluations of the participants and regulatory changes. Materials are assessed yearly or as needed to insure course integrity.

Extensive Academic Research

Technical Learning College's (TLC's) continuing education course material development was based upon several factors; field experience working in the water quality field, extensive academic research (teaching in the community college system), advice from subject matter experts (State officials and industry leaders), data analysis, task analysis and training needs assessment process information gathered from other states.

Both Melissa and Jeff Durbin are the two primary Instructors, Subject Matter Experts and Technical Writers have trained and/or certified more than ten thousand students. These two Instructors teach on a daily basis in a classroom setting throughout Arizona and on-line to students nationwide. See below for more information.

Advice from Subject Matter Experts

Both Melissa and Jeff Durbin are professional trainers and have been educated in current trends in professional education and continuing education needs.

Primary Course Designers Melissa and Jeff Durbin

Melissa Durbin

This course was co-designed by Melissa Durbin; she has over 25 years of teaching water and wastewater treatment experience as a college instructor. Melissa has written the several nationally accepted water and wastewater treatment manuals. Melissa has taught approximately 10,000 students about water and wastewater treatment and related classes. She will be available to answer questions relating this course.

Jeff Durbin

This course was co-designed by Jeff Durbin, over 10 years of water and wastewater treatment experience as a backflow inspector for the City of Phoenix and 20 years of water and wastewater treatment experience. Jeff has taught approximately 10,000 students about water and wastewater treatment primarily in water distribution, and pollution control (water quality) related classes. Jeff will also be able to answer any question pertaining to this course.

Course Compiler

Peter Easterberg, Detail-oriented technical writer/technical editor/desktop publisher/copy editor. 20 years' experience editing and writing feasibility and trade-off studies, test procedures, specifications, user manuals, company policies, HR forms, and ISO-9000 documents. Exceptional grammatical/written communication skills. "Go-to" person for Microsoft Word, Outlook, and general computer questions. Internet Webmaster Certificate (including HTML)

Contributing Editors

James L. Six Received a Bachelor of Science Degree in Civil Engineering from the University of Akron in June of 1976, Registered Professional Engineer in the State of Ohio, Number 45031 (Retired), Class IV Water Supply Operator issued by Ohio EPA, Number WS4-1012914-08, Class II Wastewater Collection System Operator issued by Ohio EPA, Number WC2-1012914-94

Joseph Camerata has a BS in Management with honors (magna cum laude). He retired as a Chemist in 2006 having worked in the field of chemical, environmental, and industrial hygiene sampling and analysis for 40 years. He has been a professional presenter at an EPA analytical conference at the Biosphere in Arizona and a presenter at an AWWA conference in Mesa, Arizona. He also taught safety classes at the Honeywell and City of Phoenix, and is a motivational/inspirational speaker nationally and internationally.

James Bevan, Water Quality Inspector S.M.E. Twenty years of experience in the environmental field dealing with all aspects of water regulations on the federal, state, and local levels. Experience in the water/wastewater industry includes operation of a wastewater facility, industrial pretreatment program compliance sampling, cross-connection control program management, storm water management, industrial and commercial facility inspections, writing inspection reports for industry, and technical reports per EPA permit requirements. Teacher and Proctor in Charge for Backflow Certification Testing at the ASETT Center in Tucson for the past 15 years and I possess an Arizona Community College, Special Teaching Certificate in Environmental Studies. Extensive knowledge and experience in college course and assignment/assessment writing.

Dr. Pete Greer S.M.E., Retired biology instructor, chemistry and biological review.

Jack White, Environmental, Health, Safety expert, City of Phoenix. Art Credits.

Final Examination for Credit

Opportunity to pass the final comprehensive examination is limited to three attempts per course enrollment.

Course Procedures for Registration and Support

All of Technical Learning College's (TLC) correspondence courses have complete registration and support services offered. Delivery of services will include, e-mail, web site, telephone, fax and mail support. TLC will attempt immediate and prompt service. When students register for a distance or correspondence course, they will be assigned a start date and an ending date.

It is the student's responsibility to note dates for assignments and keep up with the course work. If a student falls behind, he/she must contact TLC and request an ending date extension in order to complete the course. It is the prerogative of TLC to decide whether to grant the request. All students will be tracked by their or a unique number.

Course Procedures for Registration and Support

All of Technical Learning College's distance learning courses have complete registration and support services offered. Delivery of services will include e-mail, web site, telephone, fax and mail support. TLC will attempt immediate and prompt service.

When a student registers for a correspondence course, he/she is assigned a start date and an end date. It is the student's responsibility to note dates for assignments and keep up with the course work. If a student falls behind, he/she must contact TLC and request an end date extension in order to complete the course. It is the prerogative of TLC to decide whether to grant the request. All students will be tracked by a unique computer generated number assigned to the student. Some students will be tracked and reported by their operator ID for Pennsylvania, Texas and New York.

Disclaimer and Security Notice

The student shall understand that it their responsibility to ensure that this CEU course is either approved or accepted in my State for CEU credit. The student shall understand and follow State laws and rules concerning distance learning courses and understand these rules change on a frequent basis and will not hold Technical Learning College responsible for any changes.

The student shall understand that this type of study program deals with dangerous conditions and will not hold Technical Learning College, Technical Learning Consultants, Inc. (TLC) liable for any errors or omissions or advice contained in this CEU education training course or for any violation or injury caused by this CEU education training course material. The student shall contact TLC if they need help or assistance and double-check to ensure my registration page and assignment has been received and graded.

Student's Identity, Attendance, and Participation Verification

A proctoring report and/or computer-tracking program validates proper identity, attendance and participation. The student shall submit a driver's license for signature verification and track their time worked on the assignment. The student shall also sign an affidavit verifying they have not cheated and worked alone on the assignment. We follow up with telephone confirmation and/or quiz review assessment. All student attendance is tracked on TLC's student attendance database.

TLC's Teaching Techniques and Assessment Tools

Our training courses are based upon a form of induction training, made of topical and technical precepts. The training topics are made up of "micro-content" or "precepts"– or small chunks of information that can be easily digested. These bite-size pieces of technical information are considered to be one of the most effective ways of teaching people new information because it helps the mind retain knowledge easier. Micro-learning or precept-based training doesn't rely

on the student to process a large amount of information before breaking it down. Our method includes short modules with clearly defined learning goals for each section with a post quiz and a final assessment (quiz). This method of pre-quiz allows a student to hone in on a particular skill, then given the opportunity to exhibit their knowledge in the final assessment.

TLC's Educational Learning Objective Topics

The general course descriptions or topic titles may be different from the detailed description of the course's outline or learning objectives. These terms may be an alternative expression or a substitute but essentially having the same meaning. This is done for reading or for editing purposes. The detailed alpha and beta-testing data is not available in this document and is proprietary information belonging to a third party. The CEU course covers several educational topics/functions/purposes/objectives of compliance. The general course description of topics may be different from the detailed description. These differences are cosmetic only. The topics listed are to assist in determining which educational objective or goal that is covered for a specific educational topic area.

Security and Integrity

All students are required to do their own work. All lesson sheets and final exams are not returned to the student to discourage sharing of answers. Any fraud or deceit and the student will forfeit all fees and the appropriate agency will be notified. A random test generator will be implemented to protect the integrity of the assignment.

Student Information Personal Data Security Procedures

All information regarding the student is strict and privileged only. This information is held in secure databases and is not sold or provided to any one unless the student requests a copy or a State agency does an audit. Even during audits, we restrict confidential information unless the Agency can provide a legitimate excuse. Some of this security information and data is priority and details are not provided. Students are not provided with any passwords at this time.

Certificate of Completion

TLC will offer the student either pass/fail or a standard letter grading assignment. If TLC is not notified, the student will only receive a pass/fail notice. In order to pass your final assignment, you are required to obtain a minimum score of 70% on your assignment. The certificate of completion will have all text in capital letters and there is a water mark of the Technical Learning College in three colors along with anti-counterfeiting security measures on the edge of the certificate. An electronic copy is assigned to the student's electronic record with issue date.

Student Assistance

The student shall contact TLC if they need help or assistance and double-check to ensure my registration page and assignment has been received and graded.

Instructions for Written Assignments

The Onsite 202 training CEU course uses multiple choice and true/false questions. Answers may be written on the answer key or typed out on a separate answer sheet. TLC prefers that students type out and e-mail their answer sheets to info@tlch2o.com, but they may be faxed to (928) 468-0675.

Final Examination for Credit

Opportunity to pass the final comprehensive examination is limited to three attempts per course enrollment.

Required Texts

This course comes complete and does not require any other materials.

Environmental Terms, Abbreviations, and Acronyms

TLC provides a glossary in the rear of this manual that defines, in non-technical language, commonly used environmental terms appearing in publications and materials, as well as abbreviations and acronyms used throughout the EPA and other governmental agencies.

Recordkeeping and Reporting Practices

TLC keeps all student records for a minimum of five years. It is the student's responsibility to give the completion certificate and/or paperwork to the appropriate government agencies. If necessary, we will electronically submit the required information to New York, Colorado, Texas, Indiana, Pennsylvania and any other required state for your certification renewals.

TLC Record Storage

TLC's training records include the following elements:

1. Individual course training (assessment) and registration page (Customer Order Record) is recorded in Excel format and the hard copies are scanned and stored in a computer database for 5 years and include the following:
 - a. the instructor(s) who taught each session on that date the of the training session or grading was offered (in comments section registration page) as well as which instructor was considered to be the lead instructor(s) and by the Director.
 - b. the name of the instructor(s) and facilitator(s) who proctored and/or graded the examination for each training session if applicable (in comments section registration page);
 - c. the attendance sign-in sheet(s) (registration page) for each training course or session;
 - d. all graded and dated validated examination answer (Assessment) sheets for each examination attempt including an explanation (written in comments and/or Excel list) for any retests as well as a narrative explaining any assistance provided to the attendee before the re-test; and
 - e. session evaluation(survey)forms (in comments section registration page and or Excel list).

Grading Criteria

TLC offers students the option of either pass/fail or assignment of a standard letter grade. If a standard letter grade is not requested, a pass/fail notice will be issued. Final course grades are based on the total number of possible points. The grading scale is administered equally to all students in the course. Do not expect to receive a grade higher than that merited by your total points. No point adjustments will be made for class participation or other subjective factors. For security purposes, please fax or e-mail a copy of your driver's license and always call us to confirm we've received your assignment and to confirm your identity.

Final Assignment

The final examination assignment is determined by the examination administrator or the instruction and there are generally three versions that are readily available. There are also three levels of the examination from average, (5 Answers) Difficult (5 +All of the above) and very difficult (Six answers and All of the above). The student is provided the average rated examination unless there is a condition or concern that requires a more difficult examination. Example, two or more students at the same address or any suspicion of cheating or potential fraud. We try to ensure the security and learning experience. Assignments/answer keys are only accessible to instructors and administrative staff that have a need to know clearance.

Failure

If the student fails the examination, they are provided with two more chances to successfully pass the exam with a score of 70% or better. The student may receive a different and randomly generated exam. Upon failure of an exam, the student can submit their concerns in writing or submit a survey form and has the option to receive instructor assistance that would be equivalent to conventional classroom assistance in discovering the areas that are deficient. The instructor has the option in describing the assistance method or procedure depending upon the student's deficiencies.

Grading Criteria

TLC will offer the student either pass/fail or a standard letter grading assignment.

A 900 – 1000 points

B 800 – 899 points

C 700 – 799 points

D 600 – 699 points

F <600 points

In order to successfully pass this course, you will need to have 70% on the final exam. The entire assignment is available on TLC's Website in a Word document format for your convenience.

Forfeiture of Certificate (Cheating)

If a student is found to have cheated on an examination, the penalty may include--but is not limited to--expulsion; foreclosure from future classes for a specified period; forfeiture of certificate for course/courses enrolled in at TLC; or all of the above in accordance with TLC's Student Manual. A letter notifying the student's sponsoring organization (State Agency) of the individual's misconduct will be sent by the appropriate official at TLC. No refund will be given for paid courses. An investigation of all other students that have taken the same assignment within 60-day period of the discovery will be re-examined for fraud or cheating. TLC reserves the right to revoke any published certificates and/or grades if cheating has been discovered for any reason and at any time. Students shall sign affidavit agreeing with all security measures. The student shall submit a driver's license for signature verification and track their time worked on the assignment. The student shall sign an affidavit verifying they have not cheated and worked alone on the assignment.

Note to students: Keep a copy of everything that you submit.

If your work is lost, you can submit your copy for grading. If you do not receive your certificate of completion or quiz results within two or three weeks after submitting it, please contact us immediately. We expect every student to produce his/her original and independent work.

Any student whose work indicates a violation of the Academic Misconduct Policy (cheating, plagiarism) can expect penalties as specified in the Student Handbook, which is available through Student Services; contact them at (928) 468-0665. A student who registers for a distance learning course is assigned a "start date" and an "end date." It is the student's responsibility to note due dates for assignments and to keep up with the course work. If a student falls behind, she/he must contact the instructor and request an extension of her/his *end date* in order to complete the course. It is the prerogative of the instructor to decide whether or not to grant the request.

Your assignments are due on time. Any assignment or mailed-in examination that is one to five days late will be marked down one letter grade. Any assignment or mailed-in examination that is turned in *later* than five days will not be accepted and will be recorded in my grade book as "non-participating" and you can be withdrawn from class. (See final grade options.)

Proctoring Instructions

Students enrolled in Technical Learning College's CEU courses that require proctored testing and **who do not live in the physical service area** of the Technical Learning College Test Center must nominate and gain prior approval of a proctor who will monitor course tests. A new proctor nomination form is required for each term and for each class.

PROCTORS, If Necessary...

A proctor is an individual who agrees to receive and administer a student's test(s) from Technical Learning College at the proctor's business email address. The test(s) will be ethically and professionally administered in a suitable testing environment (e.g., college/library or professional office). The proctor will return the test(s) to the Technical Learning College Test Center via fax immediately after administration, and the proctor will mail the exam within one (1) work day of administration to the Technical Learning College Test Center.

Proctors certify in writing to the Technical Learning College Test Center that the student completed the test according to all of the specific directions provided in the proctor guidelines letter. As the Proctor Nomination Form indicates, the student will identify the specific test(s) the proctor will monitor.

Any proctor the student nominates must be acting in the official capacity in one of the following positions:

- **College or University Personnel:** Dean, Department Chair, Student Records, Professional Staff Member of an adult/continuing education office or counseling center, Librarian, Professor, or any official testing center personnel if the tests are administered in the center.
- **Armed Forces Education Office Personnel**
- **Public or Private School Personnel:** Superintendent, Principal, Guidance Counselor, or Librarian.
- **Other:** Civil Service Examiner, Librarian for City/County, HR Professional, or Education/Training Coordinator.

The following persons do not qualify as proctors:

- **Co-workers, someone who reports to you or your immediate supervisor**
- **Friends**
- **Neighbors**
- **Relatives**

Nominating a Proctor

Students are responsible for identifying, nominating, and making all of the arrangements for the proctoring of their course tests, including the payment of any fees for services and the return of test materials to Technical Learning College Test Center (cost of FAX or postage). The proctor must be able to receive the student's test(s) via email as attachments. The Technical Learning College Test Center does not accept Yahoo, AOL, G-mail, Hotmail, or etc. email addresses.

If the student is unable to find a suitable proctor, they must contact the Technical Learning College Test Center for assistance immediately via [email](#).

Proctor Nomination Form

Students will use the Proctor Nomination Form for nomination and approval of a proctor. The student will complete the top part of the form for each course s/he is taking, even if the same proctor is used for all tests. The student must click on the submit button for the data to be electronically transmitted to the Technical Learning College Test Center.

Disclaimer Notice

It is ultimately the student's responsibility to ensure that this CEU course is either approved or accepted in my State for CEU credit. The student shall understand State laws and rules change on a frequent basis and believe this course is currently accepted in their State for CEU or contact hour credit, if it is not, the student shall will not hold Technical Learning College responsible. The student shall also understand that this type of study program deals with dangerous conditions and that the student shall will not hold Technical Learning College, Technical Learning Consultants, Inc. (TLC) liable for any errors or omissions or advice contained in this CEU education training course or for any violation or injury caused by this CEU education training course material. The student shall will call or contact TLC if help or assistance is needed and double-check to ensure the registration page and assignment has been received and graded.

Affidavit of Exam Completion

The student shall affirm that they alone completed the entire text of the course. The student shall affirm that they completed the exam without assistance from any outside source. The student shall understand that it is their sole responsibility to file or maintain their certificate of completion as required by the state.

Refund Policy

We will beat any other training competitor's price for the same CEU material or classroom training. Student satisfaction is guaranteed. We will refund course fees if the course is not accepted for credit by the State. Otherwise, any other problem will be given an exchange credit towards an acceptable or approved course for the State. Once we are notified of the refund or exchange, we will generally issue a refund in 30 days of the problem and exchange within the same day.

Continuing Education Units

You will have 90 days from receipt of this manual to complete it in order to receive your Continuing Education Units (**CEUs**) or Professional Development Hours (**PDHs**). A score of 70% or better is necessary to pass this course. If you should need any assistance, please visit our Assistance Page on the website. Please e-mail all concerns and the final test to info@tlch2o.com.

Mission Statement

Our only product is educational service. Our goal is to provide you with the best possible education service possible. TLC will attempt to make your learning experience an enjoyable opportunity.

ADA Compliance

TLC will make reasonable accommodations for persons with documented disabilities. Students should notify TLC and their instructors of any special needs. Course content may vary from this outline to meet the needs of these particular students.

When the Student finishes this course...

At the conclusion of this course:

At the finish of this course, you (the student) should be able to explain and describe septic treatment technologies, installation practices, pumping, and past performance of various methods. For developing and improving OWTS program structure, criteria, alternative designs, performance requirements, SCADA implementation to construction safety practices.

Student is required to submit the following information for assignment grading...

1. 70 PERCENT ON FINAL ASSESSMENT
2. DRIVER'S LICENSE
3. SCHEDULE OF TIME WORKED ON ASSIGNMENT
4. AFFIDAVIT OF EXAM COMPLETION
5. PROCTOR CERTIFICATION
6. TELEPHONE CONFIRMATION

Note to Students

Keep a copy of everything that you submit! If your work is lost, you can submit your copy for grading. If you do not receive your certificate of completion or other results within two to three weeks after submitting it, please contact your instructor.

Educational Mission

The educational mission of TLC is:

To provide TLC students with comprehensive and ongoing training in the theory and skills needed for the environmental education field,

To provide TLC student's opportunities to apply and understand the theory and skills needed for operator certification,

To provide opportunities for TLC students to learn and practice environmental educational skills with members of the community for the purpose of sharing diverse perspectives and experience,

To provide a forum in which students can exchange experiences and ideas related to environmental education,

To provide a forum for the collection and dissemination of current information related to environmental education, and to maintain an environment that nurtures academic and personal growth.

CUSTOMER SERVICE RESPONSE CARD

NAME: _____

E-MAIL _____ PHONE _____

PLEASE COMPLETE THIS FORM BY CIRCLING THE NUMBER OF THE APPROPRIATE ANSWER IN THE AREA BELOW.

1. Please rate the difficulty of your course.
Very Easy 0 1 2 3 4 5 Very Difficult

2. Please rate the difficulty of the testing process.
 Very Easy 0 1 2 3 4 5 Very Difficult

3. Please rate the subject matter on the exam to your actual field or work.
Very Similar 0 1 2 3 4 5 Very Different

4. How did you hear about this Course? _____

5. What would you do to improve the Course?

How about the price of the course?

Poor _____ Fair _____ Average _____ Good _____ Great _____

How was your customer service?

Poor ___ Fair _____ Average _____ Good _____ Great _____

Any other concerns or comments.

