

**Registration form**

**TOTAL COLIFORM RULE \$40.00**  
**48 HOUR RUSH ORDER PROCESSING FEE ADDITIONAL \$50.00**

**Start and Finish Dates:** \_\_\_\_\_

*You will have 90 days from this date in order to complete this course*

List number of hours worked on assignment must match State Requirement. \_\_\_\_\_

**Name** \_\_\_\_\_ **Signature** \_\_\_\_\_

*I have read and understood the disclaimer notice on page 2. Digitally sign XXX*

**Address** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Email** \_\_\_\_\_ **Fax ( \_\_\_\_\_ )** \_\_\_\_\_

**Phone:**  
**Home ( \_\_\_\_\_ )** \_\_\_\_\_ **Work ( \_\_\_\_\_ )** \_\_\_\_\_

**Operator ID #** \_\_\_\_\_ **Exp. Date** \_\_\_\_\_

**Please circle/check which certification you are applying the course CEU's.**

Water Treatment \_\_\_ Water Distribution \_\_\_ Other \_\_\_\_\_

**Technical Learning College TLC PO Box 3060, Chino Valley, AZ 86323**  
**Toll Free (866) 557-1746 Fax (928) 272-0747 [info@tlch2o.com](mailto:info@tlch2o.com)**

**If you've paid on the Internet, please write your Customer#** \_\_\_\_\_

**Please invoice me, my PO#** \_\_\_\_\_

**Please pay with your credit card on our website under Bookstore or Buy Now. Or call us and provide your credit card information.**

***We will stop mailing the certificate of completion so we need either your fax number or e-mail address. We will e-mail the certificate to you, if no e-mail address; we will fax it to you.***

## **DISCLAIMER NOTICE**

I understand that it is my responsibility to ensure that this CEU course is either approved or accepted in my State for CEU credit. I understand State laws and rules change on a frequent basis and I believe this course is currently accepted in my State for CEU or contact hour credit, if it is not, I will not hold Technical Learning College responsible. I also understand that this type of study program deals with dangerous conditions and that I 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 or neglect or damage caused by this CEU education training or course material suggestion or error. I will call or contact TLC if I need help or assistance and double-check to ensure my registration page and assignment has been received and graded.

**State Approval Listing Link**, check to see if your State accepts or has pre-approved this course. Not all States are listed. Not all courses are listed. If the course is not accepted for CEU credit, we will give you the course free if you ask your State to accept it for credit.

**Professional Engineers**; Most states will accept our courses for credit but we do not officially list the States or Agencies. Please check your State for approval.

## **State Approval Listing URL...**

<http://www.ABCTLC.com/downloads/PDF/CEU%20State%20Approvals.pdf>

## **AFFIDAVIT OF EXAM COMPLETION**

I affirm that I personally completed the entire text of the course. I also affirm that I completed the exam without assistance from any outside source. I understand that it is my responsibility to file or maintain my certificate of completion as required by the state or by the designation organization.

## **Grading Information**

In order to maintain the integrity of our courses we do not distribute test scores, percentages or questions missed. Our exams are based upon pass/fail criteria with the benchmark for successful completion set at 70%. Once you pass the exam, your record will reflect a successful completion and a certificate will be issued to you.

## **Rush Grading Service**

If you need this assignment graded and the results mailed to you within a 48-hour period, prepare to pay an additional rush service handling fee of \$50.00. This fee may not cover postage costs. If you need this service, simply write RUSH on the top of your Registration Form. We will place you in the front of the grading and processing line.

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.

## TCR Answer Key

Name \_\_\_\_\_

Phone \_\_\_\_\_

Did you check with your State agency to ensure this course is accepted for credit?

**No refunds**

You are responsible to ensure this course is accepted for credit.

Method of Course acceptance confirmation. Please fill this section

Website \_\_\_ Telephone Call \_\_\_ Email \_\_\_ Spoke to \_\_\_\_\_

Did you receive the approval number, if applicable? \_\_\_\_\_

What is the course approval number, if applicable? \_\_\_\_\_

***You can electronically complete this assignment in Adobe Acrobat DC.***

Please Circle, Bold, Underline or X, one answer per question. A felt tipped pen works best.

1. A B C D

2. A B C D

3. A B C D

4. A B C D

5. A B C D

6. A B C D

7. A B C D

8. A B C D

9. A B C D

10. A B C D

11. A B C D

12. A B C D

13. A B C D

14. A B

15. A B

16. A B

17. A B

18. A B

19. A B C D

20. A B C D

21. A B C D

22. A B C D

23. A B

24. A B

25. A B C D

26. A B C D

27. A B C D

28. A B C D

29. A B C D

30. A B C D

*I understand that I am 100 percent responsible to ensure that TLC receives the Assignment and Registration Key. I understand that TLC has a zero tolerance towards not following their rules, cheating or hostility towards staff or instructors. I need to complete the entire assignment for credit. There is no credit for partial assignment completion. My exam was proctored. I will contact TLC if I do not hear back from them within 2 days of assignment submission. I will forfeit my purchase costs and will not receive credit or a refund if I do not abide with TLC's rules.*

**Please Sign that you understand and will abide with TLC's Rules.**

\_\_\_\_\_  
Signature

**Please write down any question you may had problems with here.**

**Please fax the answer key to TLC Western Campus  
Fax (928) 272-0747**

Always call us after faxing the paperwork to ensure that we've received it.

**Rush Grading Service**

If you need this assignment graded and the results mailed to you within a 48-hour period, prepare to pay an additional rush service handling fee of \$50.00.

*This course contains general EPA's SDWA federal rule requirements. Please be aware that each state implements water / sampling procedures/ safety / environmental / SDWA regulations that may be more stringent than EPA's regulations. Check with your state environmental/health agency for more information. These rules change frequently and are often difficult to interpret and follow. Be careful to be in compliance with your permit and State and do not follow this course for proper compliance.*

*Please e-mail or fax this survey along with your final exam*

**TOTAL COLIFORM RULE CEU COURSE  
CUSTOMER SERVICE RESPONSE CARD**

NAME: \_\_\_\_\_

E-MAIL \_\_\_\_\_ PHONE \_\_\_\_\_

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

Please rate the difficulty of your course.

Very Easy 0 1 2 3 4 5 Very Difficult

Please rate the difficulty of the testing process.

Very Easy 0 1 2 3 4 5 Very Difficult

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

Very Similar 0 1 2 3 4 5 Very Different

How did you hear about this Course? \_\_\_\_\_

What would you do to improve the Course?

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Any other concerns or comments.

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## Total Coliform Rule CEU Training Course Assignment

The Total Coliform Rule CEU course assignment is available in Word on the Internet for your convenience, please visit [www.abctlc.com](http://www.abctlc.com) and download the assignment and e-mail it back to TLC.

You will have 90 days from receipt of this manual to complete it in order to receive your Professional Development Hours (PDHs) or Continuing Education Unit (CEU). A score of 70 % or better is necessary to pass this course. If you should need any assistance, please email or fax all concerns and the completed ANSWER KEY to [info@tlch2o.com](mailto:info@tlch2o.com).

Select one answer per question. Please utilize the answer key. (s) on the answer will indicate either plural and singular tenses.

### Hyperlink to the Glossary and Appendix

<http://www.abctlc.com/downloads/PDF/WTGlossary.pdf>

### Dangerous Waterborne Microbes

1. Which of the following are not necessarily agents of disease, fecal coliform bacteria may indicate the presence of disease-carrying organisms, which live in the same environment as the fecal coliform bacteria.

- A. Fecal coliform bacteria
- B. Cryptosporidium
- C. *Shigella dysenteriae*
- D. None of the above

### Bacteriological Monitoring Introduction

2. Which of the following are usually harmless, occur in high densities in their natural environment and are easily cultured in relatively simple bacteriological media?

- A. Indicator bacteria
- B. Amoebas
- C. Viruses
- D. None of the above

3. Indicators in common use today for routine monitoring of drinking water include total coliforms, fecal coliforms, and?

- A. Cryptosporidium
- B. Protozoa
- C. *Escherichia coli* (*E. coli*)
- D. None of the above

4. According to the text, the routine microbiological analysis of your water is for?

- A. Contamination
- B. Colloids
- C. Coliform bacteria
- D. None of the above

### Bacteria Sampling

5. Water samples for \_\_\_\_\_ must always be collected in a sterile container.

- A. Amoebas
- B. Bacteria tests
- C. Viruses
- D. None of the above

### Methods

6. The MMO-MUG test, a product marketed as \_\_\_\_\_, is the most common. The sample results will be reported by the laboratories as simply coliforms present or absent.

- A. Colilert
- B. Coliform
- C. Total coliform analysis
- D. None of the above

**The four (4) types of samples are:**

7. Samples collected following a coliform present routine sample. The number of repeat samples to be collected is based on the number of \_\_\_\_\_ samples you normally collect.
- A. Repeat      C. Routine  
B. Special      D. None of the above
8. A PWS fails to take every required repeat sample after any single TC+ sample
- A. Trigger: Level 1 Assessment      C. All of the above  
B. Trigger: Level 2 Assessment      D. None of the above
9. A PWS on state-approved annual monitoring has a Level 1 Assessment trigger in 2 consecutive years.
- A. Trigger: Level 1 Assessment      C. All of the above  
B. Trigger: Level 2 Assessment      D. None of the above
10. A PWS collecting fewer than 40 samples per month has 2 or more TC+ routine/ repeat samples in the same month.
- A. Trigger: Level 1 Assessment      C. All of the above  
B. Trigger: Level 2 Assessment      D. None of the above
11. A PWS incurs an E. coli MCL violation.
- A. Trigger: Level 1 Assessment      C. All of the above  
B. Trigger: Level 2 Assessment      D. None of the above
12. A PWS collecting at least 40 samples per month has greater than 5.0 percent of the routine/repeat samples in the same month that are TC+.
- A. Trigger: Level 1 Assessment      C. All of the above  
B. Trigger: Level 2 Assessment      D. None of the above
13. A PWS has a second Level 1 Assessment within a rolling 12-month period.
- A. Trigger: Level 1 Assessment      C. All of the above  
B. Trigger: Level 2 Assessment      D. None of the above

**Revised Total Coliform Rule (RTCR) Summary**

14. EPA published the Revised Total Coliform Rule (RTCR) in the Federal Register (FR) on February 13, 2013 (78 FR 10269). It is the revision to the 1989 Total Coliform Rule (TCR).
- A. True      B. False
15. The RTCR upholds the purpose of the 1989 TCR to protect public health by ensuring the duplicity of the drinking water distribution system and monitoring for the absence of microbial contamination.
- A. True      B. False
16. The RTCR establishes criteria for systems to qualify for and stay on for special increased monitoring, which could reduce water system problems for better system operation.
- A. True      B. False

(S) Means the answer can be plural or singular in nature



17. The RTCR requires public water systems that are vulnerable to microbial contamination to identify and fix problems.  
A. True      B. False
18. The water provider shall collect repeat samples (at least 3) for each TC+ positive routine sample.  
A. True      B. False
19. For PWSs on quarterly or annual routine sampling, collect additional routine samples (at least 3) in the month after a \_\_\_\_\_ .  
A. CCR(s)      C. Total coliform positive samples  
B. PN      D. TC+ routine or repeat sample
20. PWSs incur violations if they do not comply with the requirements of the RTCR. The violation types are essentially the same as under the TCR with few changes. The biggest change is no acute or monthly MCL violation for \_\_\_\_\_ only.  
A. CCR(s)      C. Total coliform positive samples  
B. PN      D. TC+ routine or repeat sample
21. Community water systems (CWSs) must use specific language in their CCRs when they must conduct an assessment or if they incur \_\_\_\_\_.  
A. CCR(s)      C. An E. coli MCL violation  
B. PN      D. TC+ routine or repeat sample
22. The water provider shall analyze all \_\_\_\_\_ that are total coliform positive (TC+) for E. coli.  
A. Routine or repeat water samples      C. Microbial contamination  
B. Reduced monitoring      D. Repeat water samples
23. The RTCR requires public water systems (PWSs) to meet a legal limit for E. coli, as demonstrated by required monitoring.  
A. True      B. False
24. The RTCR suggests the frequency and timing of required microbial testing based on, public water type and source water type.  
A. True      B. False
25. The water provider shall develop and follow a sample-siting plan that designates the PWS's collection schedule. This includes location of \_\_\_\_\_.  
A. Routine and repeat water samples      C. Microbial contamination  
B. Reduced monitoring      D. Repeat water samples
26. The water provider shall collect \_\_\_\_\_ on a regular basis (monthly, quarterly, annually). Have samples tested for the presence of total coliforms by a state certified laboratory.  
A. Routine water samples      C. Microbial contamination  
B. Reduced monitoring      D. Repeat water samples

27. PN is required for violations incurred. Within required timeframes, the PWS must use the required health effects language and notify the public if they did not comply with certain requirements of the RTCR. The type of \_\_\_\_\_ depends on the severity of the violation.
- A. CCR(s)      C. MCL violation
  - B. PN            D. TC+ routine or repeat sample

**Disinfection Key**

28. The RTCR requires 99.99% or 4 log inactivation of \_\_\_\_\_ .
- A. Enteric viruses      C. Giardia lamblia cysts
  - B. Crypto                D. None of the above
29. The RTCR requires 99% or 2 log inactivation of \_\_\_\_\_ .
- A. Enteric viruses      C. Giardia lamblia cysts
  - B. Crypto                D. None of the above
30. The RTCR requires 99.9% or 3 log inactivation of \_\_\_\_\_.
- A. Enteric viruses      C. Giardia lamblia cysts
  - B. Crypto                D. None of the above