

Course Syllabus:
Groundwater and Well Care for Public Water Systems

Course Contents: 6 Lessons, 6 Videos, 6 Quizzes, 1 Evaluation Survey, 1 Final Exam

Total Time for Course: 2 hours

Format: Online

Instructor: Steve Wilson, Illinois State Water Survey (see CV attachment)

Objectives:

This course will help owners and operators of public water systems with a groundwater well better understand how to properly care for their water supply. By understanding the basic science of water wells and following best practices to maintain and protect water supplies, well owners will obtain the knowledge needed to extend the life of the well and help ensure the water remains safe to drink.

Participation & Completion Requirements:

To monitor participation and completion, the course follows ABC's recommendations for online courses including:

1. Quizzes are included in each lesson for a total of 6 quizzes
2. Quizzes' question bank is sufficient to randomly generate multiple exam versions with a minimum of 3 item bank questions for quiz
3. A final comprehensive exam with a min score of 70% for completion
4. Opportunity to pass a final exam is limited to 3 attempts per enrollment

Prerequisites: None

To Access the Course Material:

1. Go to: <http://wateroperator.thinkific.com/courses/groundwater-and-well-care-for-public-water-systems>
2. You can view general information about the class on this main page. To enroll, select the button 'Enroll for free' under the course title at the top of the page.
3. To create an account, you can sign up with your LinkedIn account if you have one or enter your first name, last name, email, and password.
4. Select create an account.
5. You will be directed to the course material and can begin taking the course. After each text, select 'Next' in the bottom right corner to continue to more material. If you need to move back to review a previous window, you can use the left menu and select the topic you want to review. To play videos, simply click on the video to begin.
6. At the end of each lesson, you must take a quiz. You cannot move onto the next lesson until you have successfully completed the quiz.
7. After all 6 lessons, you must complete a course evaluation and final exam.
8. At any time after completing the course, you can sign in to the home page and select 'Replay' to review course material. Video transcripts can be downloaded for convenience and easy reference in the future.

Course Credit:

Upon completion, operators will receive a certificate of completion.

Course Structure and Lesson Plan:

Lesson 1 (15 Minutes): The Science of Groundwater

Knowing the geology of your well provides you with an understanding of possible sources of contamination, as well as how much water your well might be able to pump. It puts the science behind why some wells might run out of water while others have plenty. It also explains why some wells are more vulnerable to contamination than others.

Lesson 2 (15 Minutes): Groundwater and Well Contamination

Now that we have an idea of how water is stored in the ground and how geology affects its movement and availability, we are going to look at how it moves to your well and what can happen as it does. In particular, we'll discuss how water level, flow, and water quality can be affected when pumping a well. You'll also learn how contaminants can move with groundwater, or be affected by groundwater flow and pumping. This lesson will give you the background to understand how pumping your well can influence groundwater flow. It will also give you a better idea of the value of source water protection.

Lesson 3 (25 Minutes): Well Construction and Related Issues

When considering well contamination problems and risks, it's important to know what kind of well you have and how it was constructed. Knowing how water gets into your well and from what source will help you understand what you need to do to protect your groundwater source and well from outside influences.

Lesson 4 (30 Minutes): The Water Well System

In order to understand common problems and maintenance practices related to your well and water system, you need to know the parts that make up your water system, what each part does, and how they work together to provide your water. Once we understand the components and process, we will have a better chance of being able to solve problems that arise, as well as understand why we should perform regular maintenance to protect our well and water system.

Lesson 5 (20 Minutes): Operations, Maintenance, and Best Practices

Now that we understand how your well works, we can move on to how to best care for your system, including what maintenance we need to perform and what best practices we can employ to keep your drinking water safe and to keep your well system working properly. We'll also cover a few common operational issues you might encounter with your well system.

Lesson 6 (15 Minutes): Emergency Situations and Problem Solving

Performing proper maintenance on your water system will ensure that fewer problems arise, and help you deal with unexpected situations as they occur. Sometimes you cannot prevent bad things from happening, but being prepared may minimize the damage and harm. Once you understand the components and processes involved in your system, you'll be more able to solve problems as they come up. You'll also get a better understanding of why regular maintenance is an important part of protecting your well and water system.

Review and Final Exam (20-30 Minutes):

At the end of your course, you will be required to complete a course evaluation. We will provide you with additional links for where you can learn more and then you will be required to take a 20-30 minute Final Exam. You must complete the exam with a 70% or greater. You have three tries to complete the exam.